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ABSTRACT

The monograph examines issues affecting the future of handicapped people generally, and mentally retarded people specifically. E. Meyen introduces the volume and describes how the issues were identified. H. Turnbull and P. Barber, in "Perspectives on Public Policy," discuss such issues as defederalization, redefinition of handicaps, and professional ethics. R. Yoshida's "Perspectives on Research" follows with a discussion of four research topics: (1) appropriate assessment, (2) components of educational programs for mentally retarded students, (3) postschool adjustment of mentally retarded students, and (4) normalization of institutionalized mentally retarded students. "Perspectives on Severely Multiply Handicapped," including selective abortion, fetal surgery, euthanasia, and educability are examined by D. Lehr and F. Brown. Among the "Perspectives on Early Childhood Education" noted by A. Rogers-Warren and C. Poulson are family involvement, technology, and challenges in service delivery. In the final paper, "Perspectives on Instruction," J. Gottlieb and M. Alter review data on classroom effects as well as on teacher instructional behavior and curriculum considerations affecting handicapped children. (CL)

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CEC-MR MONOGRAPH

Vol. 1, No. 1 Serial No. 1, 1984

Mental Retardation: Topics of Today—Issues of Tomorrow

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The Division on Mental Retardation of the Council for Exceptional Children

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CEC-MR Monograph

The Division on Mental Retardation of the Council for Exceptional Children publishes Monographs at variable intervals. These Monographs are intended as a professional service to the Division's membership. As such they focus on the broad range of topics and disciplines of current importance to the education of mentally retarded persons.

The content of individual monographs reflects the views of its editor(s) and/or author(s) and does not necessarily represent official positions of the Division or its governing members.

It is hoped that the quality and utility of these Monographs will encourage their use and adoption by school system personnel, college and university instructors, and administrators and staff of public and private agencies serving the needs of the mentally retarded.

Additional copies of this monograph are available for sale from the Division on Mental Retardation, Council for Exceptional Children, 1920 Association Drive, Reston, Virginia 22091.

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Topics of Today—
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This monograph represents the collective contributions of 10 individuals who offered their perspectives on issues and topics related to mental retardation. In developing their perspectives, they have drawn on the works of their professional colleagues. This monograph, with its inherent strengths and limitations, represents a contribution to the literature whose authorship is shared by untold numbers. Appreciation is expressed to our colleagues who authored the chapters and to our colleagues whose works are quoted. Appreciation is also due the Publications Committee of CEC-MR for the opportunity to participate in this project. The author also wishes to acknowledge the contributions of Jane Sorensen in planning and typing the manuscript.

Edward L. Meyen
Editor

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Mental Retardation: Issues In Perspective

Edward L. Meyen
University of Kansas

What are the issues? What is their context? And, what is their importance? These questions are representative of those we addressed in planning this monograph. As we explored the implications of these questions, it became apparent that one's perception of issues depends largely on one's personal history of involvement in the study of mental retardation and/or in the development and delivery of services. Just as professionals vary in their perspectives, so do parents of mentally retarded children and adults. Rather than arbitrarily selecting issues or seeking concensus among interdisciplinary but disparate groups, we elected to examine the broader arena of issues that impact on the futures of handicapped people generally, with an aim toward establishing a meaningful context for identifying issues specific to mental retardation.

The rationale for this decision centers on the inability to sort out issues that influence only the lives of mentally retarded people and their families. Twenty-five years ago this would have been less of a problem. At that time mandatory education had not been achieved. Severely and profoundly mentally retarded children were not considered the responsibility of the public schools, and the advocacy base for social action on behalf of mentally retarded persons was just beginning to evolve. Coalitions were yet to be formed. Today, through the effects of P.L. 93-516, P.L. 93-380, and P.L. 94-142, many of the issues of the past that were specific to mental retardation have been addressed within the larger context of society's obligations to handicapped persons. This does not mean that all concerns have been resolved or that the needs of mentally retarded persons and their families are uniformally similar to those of handicapped persons generally. But it does mean that it becomes somewhat artificial to focus on only those issues that are unique to the lives of mentally retarded persons. Many, if not most, of the significant issues are inseparable from those affecting other populations of handicapped persons. For some people, this inability to give visibility to the needs of retarded persons as a distinct group may in itself represent an important issue. This may emerge as a clear issue of the future if the "handicapped" emphasis of today's advocacy does not sustain and prove to be a deterent to those who would deregulate the legislative base that has

been established. While it is too early to project this as an issue, one would be naive to discount the possibility of its emergence as a primary issue of the future.

Discussions on mental retardation tend to focus on observed behavioral and/or cognitive characteristics of individuals; their needs; or responses of society to their needs. As educational and treatment programs have evolved mental retardation has come to be defined by requirements established as eligibility criteria for receiving special services or for participation in programs. This has been particularly true in reference to those considered to be mildly mentally retarded. This can be attributed to at least two factors, 1) the nature of mental retardation, i.e., it is a condition and not a single syndrome, and 2) acknowledgement that intellectual functioning is subject to influence and mental retardation is not a permanent unalterable condition. The pattern of definitions of mental retardation offered by the American Association on Mental Deficiency in 1959, 1961, 1973, and 1977 has varied and, in general, placed increased restrictions on professionals responsible for making diagnoses of mental retardation and/or decisions on eligibility for special programs. While this provides greater assurances that children will not be misdiagnosed, it also has the effect of denying services to individuals whose functioning level is marginal but who do not fall within the contemporary definition of mental retardation. The 1983 revision in the A.A.M.D. definition will likely influence these circumstances.

The emphasis on current functioning, combined with deficits in adaptive behavior, places significant demands on those who would make decisions on who is or who is not mentally retarded. These decisions have become more than a diagnosis or an assessment. They have had the concomitant impact of an eligibility decision. The complexity of diagnosing mental retardation or determining eligibility is increased by the changing status in the cognitive performance of individuals and the lack of instruments and/or processes sufficiently sensitive to assess intellectual potential and competence in adaptive behavior.

By merely adjusting eligibility criteria, for purposes of special services, a child can become mentally retarded or "non" mentally retarded. Or through errors in assessment or failure to observe evidence of adaptive behavior, a child's eligibility status may change. No single pathology or set of characteristics identifies mental retardation. It occurs as a primary condition but may also be a secondary disability. Consequently, the range of people classified as mentally retarded has varied and will vary in the future. Paralleling changes in definitions of mental retardation have been significant changes in the provision of educational programs, the establishment of community-based services, the sophistication of advocacy capabilities, and the mission of institutional (residential) programs. The impact of these programmatic changes on trends in perceptions of who is and who is not mentally retarded is hard to determine. It may be that observed improvements in the performance of persons previously considered mentally retarded is merely a consequence of the dynamics of a more positive setting rather than the results of powerful interventions. There is also the possibility that a reduction in the proportion of persons being encompassed by definitions of mental retardation is an artifact of the concern for the effects of labeling, i.e., the movement to prevent individuals from being identified as eligible for special services on the basis of being identified as mentally retarded. While we do not know if a causative relationship exists, we do know that the population of persons institutionalized because of mental retardation is down and fewer children are receiving special education because of mental retardation. In

the 1978–1979 school year, 23.4% of all handicapped children receiving special education services were reported as receiving services primarily because of mental retardation. In the 1979–1980 school year, the percentage dropped to 22.0%.

One must be cautious in how trends in placement practices, service delivery, and the state eligibility requirements are interpreted. The 1950's programs for mentally retarded students and special education were almost synonymous. With the broadening of state and federal legislation, programs for handicapped students were expanded. This growth accounts, in part, for the reduced emphasis on mental retardation. Other factors such as the dynamics surrounding the public's response to meeting the needs of students identified as learning disabled may have been equally influential. Learning disability has become less stigmatizing than mental retardation as a reason for receiving special services. The relative vagueness of eligibility criteria for placement in programs serving learning disabled students has contributed to the difficulty in distinguishing between learning disabled and mildly mentally retarded students. If one accepts the assumption that methodologies applied to learning disabled students are equally appropriate with mentally retarded learners, then no issue surrounds this situation. On the other hand, if one believes that the learning characteristics of mentally retarded students do differ from those of learning disabled students, then the need for more precision in differentiating these groups becomes an issue. Some states are moving to delivery models that distinguish students with learning problems as mild, moderate, and/or severe without making distinction in the preparation of teachers and/or necessarily in the grouping of students for instruction.

This discussion is intended to serve as a frame of reference for the issues (and topics) presented in the subsequent chapters. The authors were provided with a general set of parameters, but allowed to exercise their own in developing substantive statements. Collectively our intent has been to present a set of issues warranting the profession's concern but not to be exhaustive. In the formulation of the manuscript it became apparent that while some issues were clearly evident, much of what needed to be articulated through a monograph of this nature was based on observations and not necessarily issues in the context of devisive views. These topics may well become issues of the future.

Readers will note that the monograph covers a wide array of topics but tends to focus on issues that directly or indirectly impact on education as a primary intervention. This is by design, partly due to the composition of CEC-MR membership, but also due to the centrality of education as a vehicle around which public policy has been formed and to which the advocacy efforts of individuals and groups have been addressed over the past several years. Certainly, there are topics in biomedicine, psychology, allied health, and extended care that warrant the attention of a monograph. When one examines the history of mental retardation as a social concern in this country, education as a right and educational equity as a goal have been the underlying sources of motivation for much of the advocacy that has occurred in behalf of mentally retarded people.

Other authors and/or editors may have selected different topics or another configuration of chapters. We deliberately opted for the structure of this monograph of our perspectives on the current status of mental retardation as a field of inquiry because of the potential for significant challenges to the legislative base that has been achieved. Each author has addressed issues and topics specific to mental retardation, as well as those that are intertwined with the future of handicapped people generally.

Public policy and research were selected because they are central to all issues concerning human services. While unprecedented achievements have occurred in the public policy arena and to a certain extent in the research community, the realities are that we have merely attained a level of readiness. To realize the spirit of today's public policies will require a sophisticated advocacy base and leaders who are sensitive to the political process as well as to the needs of mentally retarded persons. The economic status of the country has added greatly to the vulnerability of today's public policies. Researchers must not only pursue the prevailing questions of enhancing learning by mentally retarded persons but they must also address those new questions that have surfaced as a result of the legislating of educational equity. Unless new interventions are developed and promulgated the readiness brought about by today's public policies will be allowed to deteriorate.

The most significant accomplishment of the past decade may be the mandating of educational programs for the severely multiply handicapped. Severely/profoundly mentally retarded persons and their families have benefited from this new statement of public policy. We again have a situation in which it would be inappropriate to separate the mentally retarded from the larger population of individuals considered severely/profoundly handicapped and definitions again come into play as potential deterents to the provision of needed services. Today the practice of providing education to severely multiply handicapped students in the public schools is being questioned. As educational programs for this group of students have evolved, the visibility of severely multiply handicapped people as members of our society and as persons deserving to be acknowledged for their right to quality of life has increased. This realization of a public policy has introduced, for public discussion, topics that were previously shielded from the public. These include selective abortion, euthanasia, and the withholding of treatment. To some these may be philosophical or legal issues, but how they are resolved are basic statements of public policy.

The provision of early childhood education has long been considered an essential component to the continuum of care for mentally retarded children. Most of the early research on intervention models was done with mentally retarded children. Early childhood special education remains as an undeveloped network of service. The growth of early childhood education programs, as well as day care programs in general, have been set back by changes in fiscal policies at the federal level. Reductions in federal support have caused some communities to discontinue service or to seek private support. In other situations communities have continued public support but reconfigured the nature of the services provided. Of all services brought about by the initiatives and advocacy efforts of the past 10 years, early childhood education may be the most vulnerable in the future. At the same time, it holds the greatest potential for enhancing the performance of mentally retarded persons. Early intervention for young children generally offers an opportunity for minimizing the impact of mild mental retardation.

In setting parameters for the issues and topics to be covered, decisions were also made on what not to include. Technology, biomedicine, psychometrics, instructional planning, adult care and treatment are among important topics not covered. They are significant and warrant attention. We have attempted to create a resource for students of mental retardation that places some issues in perspective and introduces them to topics that represent potential issues and concerns of the future. The monograph is not a review of the literature. Rather it is intended as a presentation of perspectives.

Perspectives on Public Policy

H. Rutherford Turnbull, III and Patricia Barber
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In this chapter we will briefly discuss those policy issues affecting mentally retarded people that we believe will cause the greatest amount of problems and require the greatest effort to resolve during the next decade. By necessity, this analysis requires crystal-ball gazing; by definition, forecasting is necessarily risky.

This is so because of the murky nature of the future. It also is so because several conditions might render our analysis inadequate or incorrect. Technological advances might enable retarded people to do far more than they now can. The science of ergonomics—also called bio-engineering—is well advanced in such sophisticated businesses as the space, automobile, and office-equipment industries. It is not, however, nearly so well advanced in the field of special education. If there are dramatic breakthroughs in bio-engineering for retarded people, there will be dramatic implications for their education, their employment, and their residential placement. Such breakthroughs also will affect the current debate about their educability, employability, and adaptability to "normalized" environments. At this writing, however, such breakthroughs, while partially foreseeable, seem unlikely to occur and become translated into practice, at least in the next half decade.[1]

In addition, political and economic events that now can be only dimly foreseen may occur with unexpected suddenness. The present economic condition of the country—falling interest rates, only mildly increased industrial and consumer spending, unemployment at Depression levels—is a mixed one and makes prognostication hazardous. The Congress and the Administration might frontally attack the federal deficit by assaulting

[1] The National Research and Demonstration Institute of the Association for Retarded Citizens has initiated a Bioengineering Project. The project will explore the potential contributions of advanced technology in meeting the needs of mentally retarded people. The focus of the project is on the design and construction of innovative devices to be applied and evaluated in actual living and learning situations. A resulting national prototype demonstrating the contributions of technology to the lives of mentally retarded persons will have implications for application to other handicapped people, as well.

the budgets of social and educational programs that undergird special education and other services for retarded people; conversely, they might increase those services' funding. If inflation continues to decrease, it will benefit services for retarded people because those services typically are highly labor intensive and therefore especially amenable to disinflationary forces. But if, at the same time, unemployment continues to remain constant or increases, there will be dire consequences for retarded people, who typically are the last to be hired and the first to be fired. Thus, the reader must take our sightings with caution.

Having filed our caveats, we wish to say that there is no clear conceptual or programmatic link between the issues that we will discuss below. Some of them are linked to each other; others are free-standing. Where there is a connection, we will try to identify it. The single, uniform message to the sections that follow is this: the future will challenge many if not all of the assumptions under which professionals and parents of mentally retarded people now operate. The past always is a clue to that future. But the speed of change is accelerated nowadays far beyond that to which we are accustomed; yet our ability to respond remains turtle-like. One should never overestimate the power of inertia. One must always try to imagine the future, however incorrect the imaginings might be. So, allow us to take you cautiously into our view of some of the most important future policy issues in mental retardation, namely defederalization, redefinition of "mental retardation," refinement of basic concepts, determination of the value of special education, professional ethics, and existence in an age of limitations.

Defederalization

As we write this chapter, we are conscious that just last week the Secretary of Education announced that the Administration is withdrawing some of the proposed changes to regulations that implement the Education for All Handicapped Children Act.[2] This is an important victory for handicapped children and their advocates, but it is a short-term one at best. In the long run, deregulation of that law is but one of the many strategies that the Administration and some members of Congress will use to nearly wholly extricate the federal government from the education and care of handicapped people. This process of attempting to diminish the federal involvement in the lives of disabled citizens is the process known as defederalization.

Other strategies include lowering the authorization levels of federally funded programs, a result achieved through the budget reconciliation process in 1981; reducing the amount of funds appropriated for programs that focus on or include handicapped people, a process that again was successful in 1981; deregulating not only the special education law but also other laws, as required by Executive Order 12291,[3] issued on the first day of President Reagan's tenure; cancelling the eligibility of handicapped people for social security benefits, now underway with vengence as part of the "continuing disability investigation" process; reducing the federal labor force so that the federal role in assisting state and local governments and assuring their compliance with federal laws

[2] Education for All Handicapped Children Act, Pub. L. No. 94-142, 89 Stat. 773 (codified at 20 U.S.C. Secs. 1401, 1402, 1411–1420); Letter of Secretary T. H. Bell to Representative Austin Murphy, Select Education Subcommittee (Oct. 20, 1982).

[3] Exec. Order No. 12,291, 3 C.F.R. 127 (1981).

is impaired; refusing to enforce federal laws; assuring that policy-sensitive positions in the executive agencies are filled by people sympathetic to the ideology of defederalization; and using "block grants" to encapsulate federal programs.

Already, the trend lines are apparent, especially in special education funding. In light of the most recent data, the federal commitment to special education exemplifies the "overpromise-underperform" syndrome. Although the Act is authorized to be funded at 40% of the "excess costs" all of special education, the Congress is funding it at only a level of 12%.[4]

The Administration, however, has met with massive failure in its efforts to consolidate P.L. 94-142 into "block-grant" legislation. Congress has sent a loud and clear signal to the Administration, on several occasions, to desist from its effort to dilute the Act. And a national referendum on re-regulation of the Act resulted in an overwhelming repudiation of the Administration's proposed regulations. Yet this single, important victory should not obscure the defederalization momentum. What seems to have slowed the momentum is state and local officials' recognition that the "New Federalism" saddles them with the responsibility for programs without the funds to operate them.

An important and often overlooked aspect of defederalization is the federal cut-back in support of students in institutions of higher education and of those institutions themselves. The Administration has attempted to tighten up the eligibility standards for determining which students qualify for federal loans. It has tried to reduce its support of institutions' training and research activities in special education and related fields. It has attempted to persuade the Congress to abolish the Department of Education and to transfer training and research functions to the National Institute of Education, to other agencies, or even to a federally created private corporation. In short, it has given a clear message that federal involvement in training people to serve handicapped people, creating demonstration programs, and conducting research on ameliorating and preventing handicapping conditions is targeted for significant reduction.

The consequences of the reduction will be manifold. Notwithstanding recent federal targeting of training money at the preservice education of future special educators, it still is possible that the quantity of future professionals who are trained on a preservice basis will decrease. This will be because students select careers partially on the basis of the availability of financial aid, especially for graduate study. If this possibility becomes reality, one can envision a profession that clearly no longer is a "growth" industry and that indeed will face exacerbated supply-demand problems. The demand for special educators and related-service personnel will remain constant or increase (assuming the number of handicapped children and the criteria for classifying children as handicapped do not change), but the supply will shrink. The consequence of disinvesting in training personnel will be visited, first, upon the direct-service and supervisory positions in educational agencies, next upon institutions of higher education, and finally upon handicapped children.

If disinvestment of major proportions obtains, it will be a consequence that will result in both quantitative and qualitative reductions. The issue will be no longer whether a

[4] U.S. Dept. of Education, Office of Special Education and Rehabilitative Services, Third Annual Report To Congress on the Implementation of Public Law 94-142 (1981).

sufficient number of teachers of mentally retarded children is available, but whether such teachers as are available, including those presently in the job market, can be converted to teach "inter-related" classes. These are classes in which mildly, moderately, or severely handicapped children with a variety of handicaps are placed together, as though they were more like each other than not. The demise of the "EMR" or "TMR" or "SMH" classroom and a new form of dumping (inappropriate placements) could be the inexorable conclusions to this drama of disinvesting in professional training. Nor should it be overlooked that some regular educators seek to take on many of the roles, and to teach many of the handicapped children, that are now the nearly exclusive property of special educators. Movement in this direction threatens special education on still another front—it signals the potential demise of the special class for all mildly and some moderately handicapped children, the redirection of preservice training efforts for regular and special educators, and a consequent disinvestment in special education training.

The consequences of these trends are sufficient to shiver one's timbers. They could foretell the renaissance of second-class education for people seen by many to be worthy of only second-class citizenship. This is so because handicapped children's education will not be seen by policy makers or future teachers to be a worthy endeavor; as its worth decreases, invariably the perceived worth of disabled people will be diminished.

The consequences also include the diminution of professional organizations that have traditionally advocated for handicapped citizens and, quite recently, themselves have become victims of defederalization. This is so because the strength of such professional organizations as The Council for Exceptional Children or American Association on Mental Deficiency is associated with the health of the profession itself. The recent spectacular growth of special education was caused directly by the federal commitment to the education of all handicapped children. When that commitment was decreased in priority, the fallout for professional organizations like CEC and AAMD was significant; both lost membership, both suffered financial hardship, both discharged staff personnel, and both were impaired as advocates for disabled people.

In other programs for mentally retarded people, the trend lines are similarly depressed. For example, social services, previously authorized under Title XX of the Social Security Act, are now "block-granted" and funded at a level substantially below earlier levels.[5] The federal prevention programs, formerly part of the Maternal and Child Health Act, have been consolidated into a single program, with reduced funding levels.[6]

Under one scenario, the upshot of defederalization is that state and local governments will pick up the programs and absorb their costs, using reduced federal funds and maintaining or increasing their own fiscal commitments. In fact, some, but not most, states have responded in this way. Under another scenario, a more pessimistic one, state and local assumption of the programs "transferred" to them is not forthcoming and is not likely. In either event, defederalization could have major consequences.

Those consequences would include the termination of some programs altogether, the reduction in levels of funding of others, a condition of no-growth for those that outlive

[5] Omnibus Budget Reconciliation Act of 1981, Pub. L. No. 97-35, 95 Stat. at Large 357.
[6] Id.

the defederalization effort, and a likely reduction in the federal-state commitment to those programs and citizens. In a nutshell, the assumption under which many of us have operated—that the federal initiatives would continue and would in turn spur state and local activity—must be reexamined.

It is perhaps too pessimistic, but nonetheless prudent, to reformulate our assumption. Granting that it used to be predicated on continuing services and modest growth, it now seems justifiable for a foreseeable future to assume not only a termination of some services and few to no new services, but to assume as well that there may be a shrinkage of services that presently exist. The shrinkage could occur not only in terms of the nature and types of the services but also in the absolute and relative funding levels for them. When one once was safe in asking, "To what extent can services continue to grow?", now one may have to ask, "To what extent will services be concluded?" The policy issue in the future—in a time of defederalization—will be to address a question of triage: which services should be funded, which are the essential ones, and how should one distinguish them from the nonessential but desirable?

Who Is Handicapped?

The shrinkage that could inevitably attend defederalization is accompanied by still another series of events, events that focus our attention on an even more fundamental question: who is handicapped? To see that this is a critical policy issue nowadays and will be even more critical in the future, it is necessary to examine apparently unrelated developments and then to understand their common theme.

The analysis begins with a recognition that the attempts by educational agencies to expel handicapped children[7] have the effect of reducing agency commitments to educate certain students. If a local educational agency, for example, can expel a handicapped child for violation of school rules, it is absolved of any responsibility (for at least the period of expulsion) to educate the child. More than that result, however, is a consequence of the expulsion. By relieving itself of an educational obligation to the child, the agency also has classified the child as a non-student. In a sense, too, the child no longer is "handicapped" for the purposes of the agency. Only those children who are able to assert a right to an education are handicapped in this functional sense; if a child is expelled and deprived thereby of the right to an education, the child is not handicapped. Who is handicapped? In a real sense, it is the child who can assert a legal claim to an education. Who is not handicapped? It is the expelled child. Of course, the expelled child is doubly handicapped: his disability exists, but it is not treated.

In another sense, redefinition of "handicapped child" occurs when an agency or mental retardation professionals assert either that some children are uneducable or that, if capable of learning anything, they are not capable of profiting from special education the way it is provided or possibly could be provided in the public schools.[8] The "ed-

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[7] These efforts have generally been unsuccessful because courts limit school sanctions to a change of placement. *See, e.g., Stuart v. Nappi*, 443 F. Supp. 1235 (D. Conn. 1978); *S-1 v. Turlington*, 635 F. 2d 342 (5th Cir. 1981), *cert. denied*, 50 U.S.L.W. 33691 (Nov. 10, 1981).

[8] For a discussion of the issue of educability, *see generally, Special Issue: Are All Children Educable?* Analysis and Intervention in Developmental Disabilities (1981).

ucability" issue has two parts. First, some people assert that some children cannot learn anything. Second, others assert that some children are so impaired that, if they have any claims to governmental support or training, those claims should not be asserted against public schools. Carried to its logical conclusion, the "educability" debate can be read to mean that, at least for the function of government known as public education, some children are not handicapped because they no longer will be students, much less handicapped ones entitled to an education. They may indeed be handicapped for other purposes (typically, mental retardation-developmental disabilities services in congregate care facilities), but not for public school purposes. They are not "handicapped" in *this* very real sense. Of course, in another sense they are doubly handicapped: they are disabled and, because they are excluded from public education services, their handicap is not addressed by a major service-providing system.

Defederalization, at least when it takes the form redefinition of "handicapped child" and of reregulation of requirements for nondiscriminatory evaluation of children suspected of being handicapped, clearly raises the same question about who is handicapped.[9] If reregulation succeeds in redefining who is handicapped or how a handicap shall be determined, there is a possibility that fewer mildly retarded people will be classified as handicapped; instead they will be treated as nondisabled. As is true of the expulsion technique and educability issue, reregulation excludes certain children from being classified as handicapped. Who is handicapped?

Although it is more difficult to prove, it seems the same question underlies an interesting and apparently widespread phenomenon in special education. It has to do with the "flattening out" of the bell-shaped curve that traditionally has illustrated who is handicapped, normal, or gifted.[10] While it is debatable whether intelligence is distributed according to a bell-shaped curve, it has been assumed that the curve correctly shows the distribution of intelligence and that there is only a limited number of truly handicapped people. Under this assumption, "professionals" have fixed a cut-off point between the retarded and nonretarded members of society.[11] In functional terms, the cut-off point defines not only who is retarded, but also who gets special education services. The maxim has been: no services without a label of retardation (or other handicap).

Yet we have reason to believe from our work with state and local educational agencies and advocacy groups that educational agencies are providing special education services to children who have not been formally classified as handicapped. A consequence of this behavior has been to flatten out the curve—to extend beyond the traditional cut-off point the line that demands those who receive special education, to pull the tail-end of the bell-shaped curve farther out along a continuum of intelligence and thereby to cause the curve to seem to be flatter. While this behavior and its result—identifying more children as worthy of special education services—may seem to run contrary to the consequences of expelling some children and classifying others as uneducable, in fact it is not contrary. This is so because it focuses on entirely different kinds of children.

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[9] 47 Fed. Reg. 150 (Aug. 4, 1982) (proposed redefinition of handicapped child); Sec. 300.4(b)(4), (regulation of nondiscriminatory evaluation requirements) Sec. 300.140-.144, 300.157-.159.

[10] S. Kirk and J. Gallagher, *Educating Exceptional Children* 28-29 (1979).

[11] H. Grossman, *Classification in Mental Retardation* (1983) (The American Association on Mental Deficiency, Washington, D.C.).

The expulsion and educability debate targets children who are severely to profoundly handicapped and concludes that they are not handicapped in a functional sense (for the purposes of public education). By contrast, the behavior that flattens out the bell-shaped curve benefits children who are mildly handicapped or simply slow learners: it attempts to provide them with services without imposing a label on them. Who is retarded? Only those who get the label? Or those who escape the label but get the services? Under the new AAMD definition, IQ 70 is a "guideline" and the Association is of the opinion that the upper limit for mild mental retardation could be as high as 75 or slightly more.[12] Thus, as one identifies policy issues for the future, "who is retarded" takes on an additional dimension, at least for other (less severely impaired) children.

Still another phenomenon relates to the policy of determining who is retarded. It has to do with the apparent failure of certain handicapped children to progress beyond certain skill levels, even after special education has been provided to them for several years. Some special educators are concerned nowadays that, despite interventions that result in early measurable and significant improvement in the skill levels of retarded children, those children do not continue to make progress, notwithstanding continued, sustained training. The "plateauing" of children—retarded or otherwise disabled—raises a difficult question: what is the obligation of educational or other treatment agencies (e.g., residential facilities[13]) to these children? Are the children entitled to special education notwithstanding the apparent failure of their training to assist their progress? At what point does a child "plateau" and thereby become—at least in the functional sense—no longer qualified for special education? It is true enough that the child continues to be retarded, but is he handicapped for the purpose of special education entitlement or for other types of service? "Who is retarded?" in this sense asks the question in the same functional context as the debate concerning expulsion, educability, and entitlement without label.

Finally, the functional definition of retardation (who is retarded?) appears in yet another context. Some federal laws target those individuals who are the most or more severely handicapped for federal funds and programs. One example is the Education for All Handicapped Children Act (1975), which requires federal funds to be spent, first, on children exluded from school and, next, on those who have the most severe disability within each category of disability (e.g., on severely handicapped children rather than on mildly retarded children). Legislation of this type is known as "bottom up" legislation: it targets the "bottom" of the disabled population for special treatment. Yet if educational agencies succeed in excluding from the ranks of retarded children those whom it can expel or classify as uneducable, the policy of "bottom-up" will surely be reexamined and the contrary policy of "creaming" (funding those who are less severely disabled) will become increasingly attractive. If the policy choice is to adhere to "bottom-up" funding, and if educational agencies succeed in excluding from the ranks of retarded

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[12] H. Grossman, Classification in Mental Retardation (1983) (AAMD, Wash. D.C.)

[13] Petitioner's Motion for Modification, *Wyatt v. Hardin*, No. 3195-N (M.D. Ala. Oct. 20, 1978). *See also* P. Roos, *Custodial Care for the Subtrainable-Revisiting An Old Myth*, 5 Law and Psychology Rev. 1 (1979); N Ellis, *The Partlow Case: A Reply To Dr. Roos*, 5 Law and Psychology Rev. 15 (1979).

children those who are expelled or uneducable, the consequence will be that "bottom-up" funds will be spent more effectively on severely handicapped students—more effectively because there will be fewer claimants to bottom-up funding (assuming the federal dollars remain constant). But if the policy of creaming is adopted, it is likely that severely handicapped children will experience a decrease in services simply because there will be no targeting of the federal funds on them. This result would obtain even if schools are successful in excluding from the definition of retarded those children whom they expel or classify as uneducable.

The picture here, then, is one of multiple developments, apparently unrelated, but, when analyzed carefully, they present a common policy issue: who is retarded? The question is posed not in the sense of obtaining a final definition of who is retarded, but, more subtly, in the sense of determining whom the schools must serve, i.e., in a functional sense. It is a question that, if answered differently than it has been answered, will have important consequences for schools, teacher-training programs, and other agencies of government that have responsibilities to retarded people. It is, therefore, one of vast policy consequences.

Refining and Redefining Concepts

It is not unexpected that important ideologies in the human-services professions find their way into policy through legislation, executive rule-making, and litigation.[14] Thus, the principles of "normalization," "least restrictive environment," "individualization," and the "developmental model," while grounded in human-service ideology, have become guideposts and then cornerstones for law and policy.[15] Examples of law and policy that incorporate these important principles are the Education for All Handicapped Children Act, the right-to-treatment mandates of federal courts, state guardianship legislation, laws governing "voluntary admission" of mentally retarded children to residential facilities, and federal anti-discrimination law.

While this incorporation process undoubtedly has been helpful to retarded people and even to those who serve them in public schools or other institutions, the practical problems of putting the principles into practice through law have been significant. One reason for the difficulty is the disagreement among professionals and parents of retarded children over the application of the principles to certain children; thus, the concept of an "appropriate education in the least restrictive setting" has spawned a predictably high number of lawsuits.[16]

But a more fundamental reason has to do with the fact that the concepts themselves are in search of content. They are extremely useful as references for thinking about retarded people's rights and for designing services that attempt to conform to the principles but their value as means to ends has been obfuscated because some people

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[14] H. R. Turnbull, *Rights for the Developmentally Disabled Citizen*, 4 U.A.L.R. Law J. 400 (1981).

[15] S. Herr, *Rights of Disabled Persons*, 12 Columbia Human Rights L. Rev. (1980); H. R. Turnbull, *Law and the Mentally Retarded Citizen*, 30 Syr. L. Rev. 1093 (1979).

[16] H. R. Turnbull, M. J. Brotherson, M. Wheat and D. Esquith, *The Least Restrictive Education for Handicapped Children: Who Really Wants It?* 16 Family Law Quarterly 161 (1982).

have seen the principles to be ends in themselves.[17] To some, the "least restrictive environment" in public school necessarily means the "mainstream"; they view the "LRE" principle as commanding a foregone result, not as a device for neutrally determining a result.[18]

Thus, as the human services ideologies flooded the professional literature, as administrators of programs attempted to put them into effect, and as courts sought to interpret and apply them to litigating parties (who typically disagreed about the meaning of the concept as applied or as defined in an abstract sense), it became necessary to attempt to give revisionist substance to the concepts, to explicate their meanings, to demonstrate their limitations, and to illustrate their potential uses. That necessity was the occasion for the efforts of special task forces of the American Association on Mental Deficiency to define "consent"[19] and, later, its related concept, "least restriction."[20]

Efforts at refining raw concepts are both inevitable, because concepts must have content that can be tested in the crucible of reality, and hopeful, because they demonstrate the staying power of the concepts themselves. They are also harbingers of further attempts to refine concepts. The question is: what other concepts are likely to be subjected to review, refinement, and revision? And, in an extension of that question, what will be the consequences of a refinement?

It seems clear that "procedural due process" already is undergoing reconceptualization. The evidence is accumulating: research on the efficacy of legal process to secure retarded students' rights is being reported at avalanche rates; proposals to pretermit "mediation" between disagreeing parties (schools and parents) as a prerequisite (or at least an optional preliminary) to legal due process are surfacing; the "cost" of legal procedures (in terms of time, psychic toll, and fiscal impact) is troublesome; and the likelihood that legal process will exacerbate the polarized and antagonistic positions of the litigants without simultaneousiy assuring a resolution of the dispute that divides them apparently is great.[21] Yet advocates for both handicapped children and for public schools are unwilling, in the main, to surrender the right to due process; they seem to agree that, while it is necessary, it is not necessarily sufficient.

The issue then is this: What procedures—legal, quasi-legal, or extra-legal—are apt to yield the multiple benefits of due process without the concommitant costs? Does the

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[17] *See e.g.*, D. Aanes and L. Haagenson, *Attention to a Conceptual Disaster*, 16 Mental Retardation 55 (1978).

[18] H. R. Turnbull, M. J. Brotherson, M. J. Czyzewski, M. DePazza-Conway, D. Esquith, A. Otis, J. A. Summers, & A. VanReusen, *A Policy Analysis of "Least Restrictive" Education of Handicapped Children*, 14 Rutgers L. J. No. _____ (Spring, 1983).

[19] *Consent Handbook* (H. R. Turnbull ed. 1977) (published by American Association on Mental Deficiency, Washington, D.C.).

[20] *The Least Restrictive Alternative* (H. R. Turnbull ed. 1981) (published by American Association on Mental Deficiency, Washington, D.C.).

[21] M. Budoff and A. Ornstein, *Special Education Appeals Hearings: Are They Fair and Are They Helping?* 2 Exceptional Children 37 (1981); R. Yoshida, *Research Agenda: Finding Ways to Create More Options for Parent Involvement*, 3 Exceptional Education Quarterly 74 (1982); B. Strickland, *Parental Participation, School Accountability, and Due Process*, 3 Exceptional Education Quarterly 41 (1982).

relative usefulness of legal process suggest that another type of conflict resolution is preferable, at least as a prelude to legal process? If so, does "mediation" hold any promise? How useful will it be? What will its costs be? Whom will it benefit, and to what degree? And is the issue truly and accurately focused if limited to mediation? Is the "problem" not one of conflict-resolution, but, instead, of conflict-prevention? Or, at least, conflict-containment and minimization? What causes the conflict in the first place? What can be done to prevent the conflict? If research produces answers to some of these questions, it may be possible to refine the entire concept of procedural safeguards, focusing on procedures that prevent, minimize, or contain the conflict rather than solely on procedures that resort to legal process to "resolve" it. Procedural safeguards, then, becomes a concept that begs to be expatiated, expanded, and thought of more broadly than it is now.

By the same token, the concept of "parent participation" clearly is undergoing a critical, revisionist critque.[22] At the core of this reexamination is the bold assertion that parent participation must be individualized and that the tailoring of parent participation to parent capabilities (its individualization) cannot move forward without an understanding that not only are families of handicapped children not homogenous, not carbon copies of each other, but also that the dynamics of family interaction with handicapped members is far more complex and accordingly more intractable of solution than previously assumed. Thus, it is one thing to call for an individualization of parent participation in the education or care of handicapped family members, and it is quite another to understand fully the nature of the family and how family membership, functions, values, and capabilities affect the relationship the family has with its disabled members and its willingness to participate with professionals in educating or treating handicapped family members. The more one examines the family with a handicapped member, the more complex "parent participation" becomes to carry out. And the more difficult that is to do, the greater the challenge will be to the presumed value of "parent participation" as a tenet of human-service delivery systems and a cornerstone of special education law.

Consider how simple it seemed, years ago, to espouse principles of normalization, least restriction, developmental model, etc. Then recall how wrecking it became to know what to do, to make these principles work. Finally, consider whether policy based on such an intractable problem—how to put "normalization" or "least restriction" into effect—can be administered consistently or can even command the assent of those it binds. Then it may be clear that the refinement of "due process" and "parent participation" will appear to be policy issues for future refinement and renewed public debate. The possibility is that the debate may reaffirm or disavow these very principles. It is not a prospect that necessarily gives one great comfort, but it is a prospect that must be considered.

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[22] *See, in general,* A. Turnbull and H. R. Turnbull, *Parent Involvement in The Education of Handicapped Children: A Critique*, 20 Mental Retardation 115 (1982); H. R. Turnbull, A. Turnbull, and M. Wheat, *Assumptions About Parental Participation: A Legislative History*, 3 Exceptional Education Quarterly 1 (1982); A. Turnbull, M. J. Brotherson, & J. A. Summers, *The Impact of Deinstitutionalization on Families: A Family Systems Approach* (1982) (unpublished manuscript).

By What Measure Is Special Education Worthwhile?

As long as we are contemplating difficult prospects, it behooves us to acknowledge that there is still another hard question facing special education. In a nutshell, it is, "Is *special education worthwhile?" That phrasing of the question undoubtedly is too brutal,* too gross, but it has the certain value of capturing the essence of the issue. A refined, re-phrased statement of the issue is: "What kinds of special education are worthwhile?" And in a still improved form, the question is, "What kinds of special education are worthwhile for what kinds of handicapped children?" Yet even this formulation fails to get to the nub of the issue, for the question truly has to do with justifying special education interventions for certain types of handicapped children from cost-benefit and cost-analysis perspectives. The problem is that special education is under scrutiny from economic and planning specialists and must be justified to them and ultimately to those who have a stake in the public fisc—legislators who raise and spend public funds and individuals and businesses whose activities are taxed.

Gone are the halcyon days when the special education profession, those in it, those served by it, and their advocates can rely solely on legal claims to education, on a long history of discrimination in education, and on the "goodness" or "rightness" (from "humanitarian" perspectives) of special education as sufficient justifications for public support of special education. Although those grounds undoubtedly are important now and will be useful in the future, they are insufficient because other criteria are emerging and gaining power, especially in times of relative economic hardship. These are data of political economics, of business, and of planning.

Data exist concerning the cost of special education.[21] But the "yield" for the investment in special education is now the issue. There are two ways to approach the "cost-yield" issue. One is by a cost-benefit analysis: does the amount of money invested in special education result in ("yield") a positive, neutral, or negative return in the sense of dollars produced or producible in the future by the handicapped students? To approach the cost-benefit question is to think about the cost of special education, the future economic productivity of the students who are provided special education, and those students' future economic productivity in relation to the cost of their education.

A second way to address the "cost-yield" issue is by a cost-effectiveness analysis: does the amount of money invested in special education result in ("yield") a positive, neutral, or negative return in the sense of the development ("progress") of the students. In this approach, one measures progress not by the criteria of future economic productivity of the child but by other criteria, namely "developmental" ones. For example, if the purpose of a given special education program is to train a child to acquire and retain certain independent living skills (e.g., household chores), does the program succeed in doing so? If the answer is "yes," then the program is cost-effective because it has succeeded in producing a positive yield for the dollars invested—it has accomplished

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[21] U.S. Dept. of Education, Office of Special Education and Rehabilitative Services, Fourth Annual Report To Congress on The Implementation of Public Law 94-142 (1982); Rand Corporation, *Study of Special Education Services*, ED Contract No. 300-79-0733 (1981); National School Boards Association, A Survey of Special Education Costs in Local School Districts (1979).

its goal. The fact that the goal is also measurable in economic terms is irrelevant, for this measure. Of course, the period of time over which the special education program is brought to bear on the child's goal is a cost factor that must be discounted against the child's success; the longer it takes for a child to achieve a goal, the more costly is the program.

One reason these are important questions to ask and answer is that the resources available to education generally, including special education, are finite and therefore must be maximized. After all, one way to justify a claim to an inelastic fisc is to be able to demonstrate that special education is effective in terms of its "economic yield" (cost-benefit) and its "human potential yield" (cost-effectiveness). In an age of potential defederalization, when we already are asking "who is handicapped," and in a mindset that must take into account limitations, the competing equities between nonhandicapped and handicapped children, among handicapped children themselves, and between education and other human services is so keen that the prevailing equity may well be that which is grounded in both legal and humanitarian concerns as well as in political economy.

It is not farfetched to assert that "rights run with revenues." Indeed, it is increasingly clear that handicapped students' rights to education (as well as the rights of other handicapped people to other public services) are cost-determined.[24] That is one of the clarion-like messages of the Supreme Court's decisions in *Southeastern Community College v. Davis*[25] and *Board v. Rowley*.[26] There, the rights of deaf people seeking to be admitted to a nursing school or to be furnished a full-time interpreter in public schools are judicially bounded by the cost of satisfying the person's claim. Yet when decision-making (whether in the Supreme Court or other policy-making forums, especially legislative ones) takes into account only the perceived cost of the claim but not data about whether it is cost-beneficial or cost-effective, the decision-making necessarily will be skewed. In *Davis* and *Rowley* the skewing was negative for the disabled person. Perhaps that result would obtain even if careful cost-benefit and cost-effectiveness analyses were performed, but that is by no means a foregone conclusion. Nor it is to be conceded that cost is the sole determinant in decision-making about special education; the law and other criteria continue to play important roles. Yet the entire decision-making process can be sharpened considerably if advocates, professionals, legislators, and courts were to be furnished the "hard" data that cost-benefit and cost-effectiveness analyses can yield.

Moreover, such analyses might inform the decision-making process in still another way, one not necessarily related to claims to a certain share of a fixed fisc or the establishment of legal rights. Cost analyses may be highly useful in deciding how special education

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[24] J. Pittenger and P. Kuriloff, *Educating the Handicapped: Reforming A Radical Law*, 66 The Public Interest 72 (1982); E. McCarthy and D. Sage, *State Special Education Fiscal Policy*, 48 Exceptional Children 414 (1982); T. Hoover, M. Kirchner-Stone, M. Detmer & G. Nantume, *State Superintendents Respond to Reagonomics*, 64 Phi Delta Kappan 124 (1982); E. Adams, *The Fiscal Condition of the States*, 63 Phi Delta Kappan 598 (1982); J. H. Stark, *Tragic Choices in Special Education: The Effect of Scarce Resources on the Implementation of Pub. Law No. 94-142*, 14 Conn. Law Review 477 (1982).

[25] *Southeastern Community College v. Davis*, 442 U.S. 397 (1979).

[26] *Board v. Rowley*, _____ U.S. _____, 73 L. Ed. 2d 690 (1982).

funds should be spent for children whose special education rights are indisputable. For example, assume that the special education share of the public pie has been determined and the rights of the handicapped children are not in question. Professionals and advocates know whom they must serve, with what funds, and generally how they must serve them. The question they must confront is maximizing the resources available to them over the number of children they must serve in certain ways. To address the maximization problem, they may find it useful to know that one kind of special education service or intervention is both cost-beneficial and cost-effective for certain kinds of children (e.g., the resource room with an emphasis on career-vocational training for older teen-aged trainable mentally retarded students), or that, in comparison to another kind of intervention (e.g., itinerant teachers working on functional academic skills for those same students in regular-classroom placements), the one intervention is more likely than the other to be more cost-beneficial, cost-effective, or both. Knowing answers to the maximization riddle will serve not only handicapped children in the short and long runs, but also the profession over similar periods of time. Just as the Education of All Handicapped Children Act and its interpretation and implementation by the courts enabled and commanded schools to change for the benefit of handicapped children and special education as a profession,[27] so too may careful economic analyses profit children and educators in their immediate concerns (learning and teaching) as well as in their out-year ones of justifying special education in hard times.

Professional Ethics

We have argued in the preceding section that, because rights run with revenues, it is necessary to integrate special education with political economics, business, and planning. We now advance a similar proposition, which is that it is necessary to join special education and ethics and to give particular attention in this merger of disciplines to the ethics that guide, or should guide, special educators and others who work with handicapped people.

Special educator's concerns with professional ethics are not exactly new. Some work already has been done by educators and lawyers associated with CEC.[28] Recently, however, the desirability for broadening special education concerns to ethical domains has become a compelling necessity. This is so because of recent Supreme Court decisions. At no time in the recent past, if ever, have professionals been given such latitude to exercise professional judgment free of judicial supervision as they have been given by the United States Supreme Court beginning in 1975 and continuing through June, 1982.

In 1975 in *O'Connor v. Donaldson*,[29] the Court decided that a state may not, consistent with the constitutional right of due process as expressed in the 14th *Amendment*, confine a non-dangerous person without offering that person some form of treatment for his mental illness. In that decision, the Court emphasized the right of mentally ill persons not to be confined and to be released from confinement if they are capable of life outside

[27] H. R. Turnbull, *Legal Precedent and the Individual Case: How Much Can Be Generalized From Court Findings?*, 2 Exceptional Education Quarterly 81 (1981).

[28] F. Weintraub & M. McCaffrey, "Professional Rights and Responsibilities" in F. Weintraub, A. Abeson & M. LaVor Eds., *Public Policy and the Education of Exceptional Children* (1976).

[29] *O'Connor v. Donaldson*, 442 U.S. 563 (1975).

of the institution without danger to themselves or others. It also made it clear that mental health professionals could be held liable for confining patients without adequate reason.

In 1979, in *Parham v. J.R.*[50] and *Secretary of Public Welfare v. Institutionalized Juveniles*,[51] the Court indicated that a substantial deference should be given to the decisions of professionals in screening mentally ill or mentally retarded children and their families for admission to or denial of admission to state mental health and retardation facilities; it held that an independent medical evaluation is constitutionally acceptable.

In 1979, in *Southeastern Community College v. Davis*,[52] the Court ruled that a seriously hearing-impaired licensed practical nurse is not subjected to discrimination, in violation of Section 504 of the Rehabilitation Act, by a federally-aided community college that refuses to admit her to its program leading to a degree in nursing; the licensed practical nurse is not qualified for admission because she cannot hear. In that case, the Court was impressed by the fact that the college's nursing faculty and other experts, such as the members of the state board of nursing examiners and physicians at a prominent university medical school, were of the unanimous opinion that the nurse could not perform the duties of a registered nurse consistent with the needs for patient safety.

In *Youngberg v. Romeo*,[53] a 1982 decision concerning the right of institutionalized, involuntarily commited severely retarded persons to treatment, the Court held that a state may not deprive a person of liberty through involuntary commitment and physical restraints without also providing treatment and training that address the person's right to liberty. In that case, the Court was swayed by the professional testimony concerning the nature of intervention that is appropriate for the disabled person and it explicitly said that, if a professional in fact exercises judgment about a person's treatment, the judgment is presumptively valid; federal courts should not try to determine whether the judgment is the best judgment that might have been made.

Finally, in 1982, in *Board v. Rowley*,[54] the Court was faced with polarized professional opinion concerning whether a moderately deaf student is entitled to a full-time school-based interpreter as part of her right to an appropriate education as guaranteed by the Education for All Handicapped Children Act (1975). In deciding that an appropriate education for the student does not require the school to provide an interpreter, the Court prominently noted that professional testimony was to the effect that the child was successful in school notwithstanding the fact that she did not have an interpreter.

Together, these cases stand for the proposition that courts will give great deference to professional judgments in judicial decision-making about handicapped people's rights. These cases prove the point that to a great extent professional opinion defines the rights and policies that affect disabled people. This conclusion is not surprising, given the nature and complexity of disabilities and the lack of unanimity among professionals concerning appropriate and effective modes of intervention.

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[50] *Parham v. J. R.*, 442 U.S. 584 (1979).
[51] *Secretary of Public Welfare v. Institutionalized Juveniles*, 442 U.S. 640 (1979).
[52] *Southeastern Community College v. Davis*, 442 U.S. 397 (1979).
[53] *Youngberg v. Romeo*, _____ U.S. _____, 73 L. Ed. 2d 28 (1982).
[54] *Board v. Rowley*, _____ U.S. _____, 73 L. Ed. 2d 690 (1982).

The conclusion, however, requires one to be explicit about two implications that are implicit in the conclusion. First, one must be explicit about the fact that the nature of professionals' relationships to their clients is defined in large part by professionals, not by courts, not by clients themselves, and not by advocates for clients. Invariably, therefore, the nature of professionals' relationships will affect both professional opinion and handicapped people's rights. Second, the way that professionals define that relationship will depend in large part upon their own value systems, their own ethics. Thus, client rights to treatment or to be free from treatment depend largely on professionals. More than that, however, the way in which clients are treated or not depends largely on the exercise of professional judgment; the clients' rights to or against treatment do not *always* rest on professionals' perceived duty to treat or not treat, but they *almost* always do. The symbiotic relationship between client rights and professional duty is, under the Supreme Court's decisions (especially *Parham* and *Romeo*), now perfectly clear: if a client claims a right, he or she may be able to exercise it only to the extent or in the manner professionals deem proper.

The crux of the matter is clearly one of an ethical dimension—namely, the nature of the duty that professionals owe to clients, as determined (with Supreme Court blessings) by professionals. If professionals' values are client-centered—if their ethical duties run primarily to their clients and such duties as they have to "the system" and to themselves are in the main subordinate to their duties to their clients—then their posture in establishing and monitoring service systems will have a far different configuration and of course different consequences for themselves and for disabled people than if professionals' values are self-centered or system-centered.

What is even more remarkable in the *Romeo* decision is the Court's statement that a professional will not be liable if he is unable to satisfy his normal professional standards because of budgetary constraints; in that situation, the doctrine of good-faith immunity prevents him from being held liable. While this language suggests that budgetary constraints will be an excuse for failure to provide habilitation or other constitutional rights, it does point out the ethical dilemmas that professionals face. This is so because it suggests that a professional whose view of his duty is system-centered rather than client-centered can rely on the inadequacy of funding for the system as a defense for the inadequacy of his treatment to a disabled person. Conversely, it suggests that a professional whose values are client-centered would not and should not tolerate a situation in which budgetary constraints prevent him from discharging his professional obligations to his clients.

It is at this juncture—the responsibility to overcome budgetary constraints so that client-centered rights can be recognized or the opportunity to accede to budgetary constraints so that system-centered views of clients' rights can be maintained—that the ethical dilemmas of professionals are most acute. Many arguably tough issues are raised by those who travel the Court's road to this junction. Should a professional seek to overcome budgetary constraints? Should a professional be a "whistle blower" where he observes his colleagues, particularly his superiors, cutting corners of constitutionally and other legally required services for disabled people? Should a professional refuse to testify on behalf of handicapped clients in lawsuits that directly attack the systems set up to serve those people, where the systems themselves are professionally questionable? Should a professional attempt to set professional standards of care, through such mechanisms as the Accreditation Council on Mental Retardation/Developmental Disabilities, if those

standards are "too expensive" for the "system" as it presently exists? Should the professional volunteer testimony at executive and legislative hearings if the testimony may directly or indirectly condemn the systems that employ him but may also advance the rights of disabled people in his care? What if a professional is a whistle-blower or an outspoken advocate for his clients and, as a consequence, is subjected to job-related sanctions? What happens to the professional who is subjected to job-related sanctions; may he sue successfully to be relieved of the effect of those sanctions (for example to be reinstated in his job, for backpay, for continued seniority and tenure, etc.)? If so, may he also recover damages from the superiors who discharged him? And what about the expense, time, and aggrevation of the litigation itself—will he be willing to bear it and will it in the long run be worth his while? In their essence, these issues are ones of a professional ethical dimension, and nowadays, more than ever, they command our immediate attention. How we perceive the ethical issues and analyze and resolve them most likely will affect us and handicapped people.

Limitations

One need not be especially observant nowadays to notice the attention paid in the popular press and mass media to the fact that we live in a society of limitations, not a world of expansion. Economists, demographers, political scientists, and educators are announcing the finite with a great deal more vigor than before. All around us we are warned to be more conscious of the "zero sum" theory, of the "inelasticity" of our natural and fiscal resources, and of the "scaled down expectations" that policy shapers hope to inculcate in us.

One who has participated in special education over several decades might find these admonitions familiar, or, at least, not unfamiliar; that person most likely can recall the same ideas, differently phrased, uttered in the times before special education became a national growth industry. But those who have entered special education recently might well be taken back by the very same cautions that an old-timer finds unremarkable. To the newcomer, the notion that the spectacular growth of special education will not continue may not only be unthinkable but also anathema.

Yet it seems clear that zero-sum warnings are entirely appropriate. That is so because, first, there is evidence that special education is experiencing retrenchment and, second, there is reason to believe that it will continue to do so. The trend lines of federal and state funding patterns show a leveling off after an early burst. Efforts to limit the number of handicapped children by redefinition of "handicap" are part and parcel of the Administration's deregulation undertakings, particularly with respect to the requirements for nondiscriminatory evaluation, mildly handicapped children, and specific learning disabilities. Expulsion endeavors evidence another strategy for limiting the number of people served; and the "educability" debate may have the same result and arguably is motivated by similar hopes—to reduce the number of handicapped children whom the schools must serve. Moreover, relatively new medical procedures, such as amniocentesis diagnosis and intrauterine surgery to repair such anomolies as hydrocephelus, have had the result of forestalling the incidence of handicapping conditions. A similar result has obtained from the increased availability of legal abortions. Finally, many of the children admitted to special education or other public schooling in the immediate aftermath of the Education for All Handicapped Children Act are now well into their teen-age years

and soon will be passing beyond even the extended age-eligibility boundaries for public education. On still another front, the vitality of the parent advocacy organizations and professional associations has been sapped by a variety of factors, not the least of which has been the Administration's divide-and-conquer policy, rendering them in many ways mere shadows of their former selves. As the organizations have struggled against the Administration, two things have happened. They have been diverted from new endeavors, from creativity and viality. But they also have re-discovered a reason to exist; they have been vitalized in one way—they have learned that the price of their success is eternal vigilence.

And, as practitioners of the dismal science of economics are wont to say, expenditures in education, including special education, should be examined annually on a "zero-base" budget basis, or should be subjected to fixed-ceiling expenditures (the so-called "capping" of entitlement programs), or both. Inflationary pressures, combined with the disinflationary effects of the worst recession since the Great Depression and the effects of tax-revolts, bode ill for labor-intensive special education and for the development of new capital for accommodating and accessible buildings or ergonomic equipment.

Against this rather unhappy backdrop stands in stark contrast our ingrained attitudes—wholly American and entirely defensible in light of our national history—that bigger is better, that limitations are temporary, and that today's dream is tomorrow's reality. DeTocqueville remarked early on concerning the spirit of optimism that characterized this country in the early 19th Century. Frederick Jackson Turner, one of our greatest historians, described the frontier mentality of the same Century—the belief that our national boundaries and resources were infinitely expandable. And, indeed, it was only two decades ago that John Fitzgerald Kennedy pledged that Americans would conquer space and, typically, we willed that we would and we did.

But some of the major lessons of our history are not holding true for us these days. We learned painfully that we cannot cheaply wage war against foreign and domestic enemies simultaneously. Throwing money at a problem does not always solve it. Oil does not necessarily flow cheaply from the Arabian and South American oil fields. The abundance of clean air and inexpensive gas and electricity is not permanently assured. In short, our old-world views, with long-standing and even fairly recent events to justify them, do not harmonize with present realities. Not surprisingly, however, we continue to resist the inexorable facts of limitations.

We may be conscious of the facts of limitations in public education and in special education specifically, but we do not always cope with it well. Few of us appreciate the massive confrontation between the methodologies of regular education, which emphasize mass education of a large number of middle-level performers, and those of special education, which stress the individualized education of a small number of exceptional performers. Notwithstanding legislative mandates, massive infusions of federal, state, and local money into schools so as to accommodate exceptional children, precedent-shattering judicial incursions into the education of those children, and consistent efforts in institutions of higher education to prepare regular and special teachers for exceptional children, public school systems remain remarkably intractable. The promise of the Education for All Handicapped Children Act remains unfilled, in large part. Systemmic change has occurred, but not with the rapidity and permanence that many in special education had anticipated.

Moreover, the issues of "educability" and "plateauing" seem to highlight the limitations of handicapped children themselves. Some special educators may have been inclined to think that they can indeed work near-miracles with handicapped children, and some parents of those children may have been apt to believe the same. Entirely laudable ideologies—such as "least restrictive" education, normalization, and integration—may have over promised results that professionals could not obtain.

Professionals themselves have begun to experience limitations that they may not have anticipated. The attrition rate of special educators is particularly high at the secondary-school level and for teachers of severely emotionally disturbed children. Institutions of higher education have been less than fully successful in training teachers to cope with the demands of exceptionality, of public school systems, of minority-education, and of the roles that special educators—in their multiple job as itinerant teachers, resource room teachers, mainstream educators, diagnosticians, and parent-educators—are required to perform. Financial incentives for both the teachers and district-level administrators as well as for future teacher educators are meager. Public opinion of public education has never been overwhelmingly positive but recently it seems to have fallen on even rockier shoals.

The idea of parent participation in the education of handicapped children is entirely defensible. Yet it is imperfectly realized, in part because parents of handicapped children themselves do not fully subscribe to it. New "models" of parent participation are bruited about, and a novel emphasis on value-related parent participation is competing for acceptance against the traditional, mechanistic view that the parent is an agent of the teacher for home-based instruction; professionals are becoming acutely conscious that parents' values do not necessarily harmonize with educators'. The result is that parent participation, as advanced in the past, is seen to be at least moderately limited in desirability and application.

We do not wish to belabor our point, which should be obvious by now. It is, quite simply, that limitations abound, yet our assumptions have not always been predicated on that very fact. One of the nation's special education leaders, Dean Burt Blatt of Syracuse University's School of Education, wrote not too many years ago that, where we see a half-cup of coffee, we should think of it as half filled, not half empty.[35] The metaphor is apter today than then, as we have tried to point out.

The policy implications of a world of limitations are, at the least, these: *Maximization* of personnel, fiscal, and capital resources is long overdue; related to this necessity is the urgency for *cost-efficacy analysis* of special education and the imperative to exercise *cost-containment* measures as a matter of self-discipline before they are externally imposed by policy makers who are not part of the special education family. The business-like operation of our business is an operations-research task that we must undertake now. Systems-centered research and intervention, directed at integrating special education more effectively with regular education is, as well, part of the maximization role. Likewise, determining the causes of attrition and addressing them in higher education and the public schools will advance the maximization mandate. So, too, will a focus on socio-economic conditions of public and private school special education, particularly

[35] B. Blatt, "Introduction: The Threatened Parent" in A. P. Turnbull & H. R. Turnbull, Eds., Parents Speak Out: View from the Other Side of a Two-Way Mirror 10 (1978).

if the focus is on teacher salaries and teacher "standing" in the community—the intrinsic worth or prestige of the professional.

Research on methodologies for effective interventions for *groups* of exceptional children, *not on single-subject designs* and interventions for single teacher-single student methodologies, must be supported and, when done, translated into practice. We properly have concentrated on individualization of instruction, as shaped by single-subject or small-group design research. But the time is close upon us when we will be required to generalize, to apply ourselves more directly to regular education instructional modes of "mass" (large-group) education. This requirement is a concommitant of the principle of maximization, but it is different because it principally addresses research.

Reallocation of limited federal, state, and local tax dollars may be desirable, so that special education funds will be spent on students who clearly fall within the exceptional boundaries. It may even be necessary to admit that some "nice-to-have" services are not "need-to-have" services and can be defunded.

And, needless to say, our assumptions (but not our actions) must be geared to the prospects of less and the likelihood of constancy, not the hopes for and the expectation of significant growth.

Conclusion

Special education has and always will have a vital role in the nation's schools. Handicapped children, their parents, and special educators are proving the abilities of the disabled person; not stressing their disabilities. Educational, personal, social, and community integration of handicapped people is moving at a remarkably rapid pace. There is much to be grateful for.

Yet our policies are in need of a hard-nosed critique. Unless we are critically self-regarding, we run the risk that we will cease to make as useful a contribution to disabled people and to society as we can, should, and want to.

More than that, however, is apparent. Our assumptions themselves cry out for reexamination, for reasons we have tried to make clear. Should those reasons seem insufficient, we will not engage in the necessary self-examination. In that case, at least one additional reason may goad us to our duty and at the same time provide a conceptual link between the foregoing sections.

That reason has to do with money. Dollar shortages partly explain the attempts to defederalize special education and to redefine who is retarded. Were there sufficient funds, efforts to impose legal limitations through defederalization and to create functional limitations through redefinition of mental retardation may not be extant or so persuasive to some. There are, as well, very real costs to implementing our basic concepts; ideologies are never cheap and those who subscribe to them must expect eventually to pay the price of their beliefs as they try to operationalize them. Moreover, fiscal limitations themselves are directly responsible for the need for cost-benefit and cost-effectiveness analyses of special education. The same is true concerning our professional ethics and values. Just as medical technology has made a seeming shambles of traditional professional ethics and values, as in the case of the defective newborn child, so it has created tremendous opportunities for the medical rescue of that child or the special education

of severely handicapped children and youth. Yet technology, like an ideology, is not cost-free; like England, America may be forced to choose between expensive medical treatment for all and appropriate special education for all handicapped people. And that brings us to our argument about limitations. Fiscal limitations bear down on systems and on individuals; other types of limitations impose their own weight. The combination of fiscal and other limitations forces us to confront such ethical questions as: who shall live and how shall the living be instructed? One may recoil in face of the prospect of measuring lives, interventions, and ethics by the availability of resources. Yet ostrich-like refusal to see the connection surely bodes ill for the profession and for disabled people.

The purpose of this chapter has been to force the reader to face some of the more difficult policy issues in special education. Forewarned is forearmed. Unfortunately, special education remains embattled; the good warriors will know both their strengths and their limitations.

Perspectives on Research

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Since the 1960's, several major texts have appeared that have provided excellent reviews of mental retardation research (Begab & Richardson, 1975; Ellis, 1963, 1979; Haywood, 1970; Mittler, 1977a, 1977b, 1977c; Stevens & Heber, 1964) including Ellis' ongoing series, the *International Review of Research in Mental Retardation* (1966). These anthologies were attempts to summarize theories and large bodies of literature from several disciplines. Together these reviews reinforced the perception that solutions to problems facing the mentally retarded would come from an integration of research from the biological, psychological, educational, and socio-behavioral aspects of retardation (Zigler, 1978). The reader is strongly encouraged not only to consult these volumes on specific topics but also to evaluate the considerable strides made in our knowledge base.

An interdisciplinary approach to mental retardation is far too ambitious for this monograph given the competencies required to evaluate the research and space limitation. As a result, this article focuses upon the future directions research should take in ensuring quality educational services for the mentally retarded. The selected topics and suggestions for future research programs reflect personal judgments which may not correspond to another colleague's perception of critical issues to be researched. Where differences occur, it is probably one of emphasis rather than disagreement.

Specifically, the discussion will first present four issues which affect how research questions are developed and designs are selected. Then, four general topics will be presented as follows: (a) the appropriate assessment of students and the use of assessment information for educational planning, (b) the more precise description and empirical testing of what constitutes an educational program for mentally retarded students, (c) the post-school adjustment of the mentally retarded students, and (d) the normalization of institutionalized mentally retarded persons. Each topic contains issues of particular interest to researchers of the mildly through to the profoundly handicapped; as appropriate, these issues will be discussed. For each topic, a brief literature review will provide the background information about our current understanding of the problem, a discussion of suggested research questions and designs will follow.

General Research Question and Design Issues

Research and Public Policy

The writing of this chapter was guided by a strong conviction that research and public policy are more than tangentially related to one another (Ballard-Campbell & Semmel, 1981; Begab, 1975; Lakin, Bruininks, & Sigford, 1981b; Zigler & Balla, 1977). Rather, many research questions originate outside of pure scientific inquiry as a result of court cases (for example, *Larry P. v. Riles*, 1972; *Parc v. Pennsylvania*, 1972; *Wyatt v. Stickney*, 1971) and legislation such as Public Law 94-142 and Section 504 of the Vocational Rehabilitation Act of 1972, as amended. Research findings can help influence policy formation and revision depending upon whether the data are compatible with decision-maker needs (Weiss, 1978). Thus, several issues such as the assessment of minority group students and the consequences of their labeling, the deinstitutionalization of the severely and profoundly retarded, and the mainstreaming of the mildly retarded have had and will continue to have prominence in the future. How they are studied will be influenced by the legal definitions stated for them and how such definitions are made operational.

Ecological Approach to Research

Although the goal of research is theory building and testing, Brooks and Baumeister (1977) pointed out the lack of ecological validity between results from laboratory studies and observed behavior in real-life service delivery settings such as classrooms. Two major issues are raised in increasing the ecological validity of studies. First, our traditional conceptions of research design assume that treatments are pure types without within-group variability. The efficacy studies are an excellent example of the problems associated with this assumption. These studies (which will be reviewed in greater detail in a later section) did not verify whether the instructional programs offered in the special classes were indeed the same and of course different from the contrasting regular classes. What is beginning to emerge is a recognition and perhaps acceptance that the first order of business is to describe and define the salient variables concerning instructional programs and student progress. A commitment to this approach is essential at this stage of knowledge.

Second, results from psychological studies are generally viewed as ends in themselves. However, applying successful treatments in classrooms or residential settings requires sensitivity to the organizational and administrative variables which enhance or inhibit their use. For example, Ballard, Gottlieb, Cormán and Kaufman (1977) described an excellent teaching program to facilitate the integration of mainstreamed mildly mentally retarded students with their peers. Mainstreamed students were randomly assigned to participate in a small cooperative group with 4 to 6 non-retarded classmates on highly structured, manipulative tasks. These groups interacted for 8 weeks. By 2 to 4 weeks after this program, the mildly mentally retarded students in the experimental group had shown significantly higher social acceptance scores derived from sociometric measures than their peers in a control group. Given this program's success, what kinds of changes did the teachers have to make in order to accommodate this program? How much instructional time did they reduce in other subjects to present this particular program; what commitments did administrators make to support the testing and perhaps using of this program in the future? In short, we need not only more detailed descriptions of our treatments but also descriptions which enhance the possibility of their implementation.

Longitudinal Studies

An often heard methodological recommendation in the mental retardation literature is the need for longitudinal studies of the effects of treatments and programs on the achievement and adjustment of mentally retarded persons. In his review of the mainstreaming literature, Gottlieb (1981) found very few research or evaluation studies which were conducted for longer than one year. As MacMillan, Meyers, and Morrison (1980) point out, the careers of mentally retarded persons are composed of extremely complex experiences. Evaluating these experiences according to a short-term event such as a one month social integration program and evaluating students' progress in school immediately afterwards yields no information about whether the effects of the program were sustained and more importantly generalized to other situations. Our conception of learning becomes one of snapshots of events rather than accumulated experience.

It is difficult to argue against this logic on research principles; most researchers would like to analyze a longitudinal data base. Although this is a commendable goal, severe logistical and funding barriers work against its widespread use. For example, with dollar commitments of public and private funding sources diminishing, grantee funding of long-term, high risk projects will probably be the exception. Several articles in the *American Journal of Mental Deficiency* have noted with increasing alarm the reduction in funds for socio-behavioral research (for example, Zigler, 1978). This has increased the need for researchers to influence policy makers in setting research priorities. Unless there is a change in public policy on funding research, the prognosis for many new large or even moderately scaled longitudinal studies is poor.

Within the research community, journal editors and publication committees have some control over the nature and quality of manuscripts. It can be generally suggested that, for instructionally based treatment studies researchers report data about student achievement or adjustment from a later time period. This requires an investment in longitudinal research. However, even a single follow-up may be a costly proposition and not a wholly successful one because of loss of subjects. For example, many of us have found that students move to other districts or to different schools within a district several times during a year. Also, student data kept by central office administrators often do not correspond to actual attendance in a building. With such difficulties in teaching students, how do we balance these problems with our need for longitudinal data? Perhaps we should consider publishing incomplete but properly explained data. Such results will not provide definite answers but may give another researcher insights from which other hypotheses could be generated. Without some change in our methodological approaches and some acceptance of incompleteness, we will still hear the same refrain concerning the need for longitudinal studies a decade from now. This recommendation is one of the few consistent messages in our research literature.

Extending Research to Populations "At Risk"

The *Larry P.* case marked a watershed in the number of EMR students identified which have since steadily declined. One of the causes was the lowering of the IQ cutoff to two standard deviations below the mean (Grossman, 1973). Gradually many state legislatures adopted this criterion. MacMillan, Meyers, & Morrison (1980) have pointed out that the Educable Mentally Retarded (EMR) population is no longer composed of students who were the participants of past studies. Much of the variability found in the

current EMR population is the result of school system identification practices which are influenced by several variables such as the socio-economic level of the district, the teacher philosophy regarding how to work with hard-to-teach students, the ethnicity of the student, and the legal requirements of non-biased assessment and parent participation in decision-making. MacMillan, et al. (1980) cautioned professionals about interpreting research findings which were based upon different populations.

This methodological problem raises an important philosophical and professional question. Should we be concerned with children experiencing learning problems who may not necessarily be EMR labeled? Meyers and Lombardi (1974) brought to the attention of the American Association on Mental Deficiency the question of whether members should be concerned with (a) the unlabeled former EMR, many of whom we suspect may now be served under other labels such as learning disabled (Tucker, 1980), (b) children with similar learning problems who were never identified as EMR, and (c) some children labeled EMR who were being served in settings other than the segregated special class. Kidd and other members of the Committee on Definition and Terminology of the Council for Exceptional Children, Mental Retardation Division (1979) also recognized this problem when they argued that the −2 standard devision criterion was too restrictive because it may lead to a denial of services to children who need them.

Although the focus of this chapter concerning issues for the mildly retarded is on the system-identified EMR student, researchers are encouraged not to be exclusively bound to the EMR. Rather, they should consider how research can be designed and findings interpreted to provide insights into the functioning and adjustment of students who are "at risk" whether they are labeled EMR or not. For example, a recent article in the *International Review of Research in Mental Retardation* discussed the cognitive development of learning disabled students (Hagen, Barclay, & Schwethelm, 1982). Without such broadening of the target population, we may be ignoring the educational needs of many children.

Assessment and Educational Programming

In the 1970's, the issue which consumed the most energy of professionals and researchers alike was the over-representation of minority children in special classes. Although Dunn (1968) and others identified several causes and negative outcomes due to over-representation, the major culprit was said to be the use of biased individual intelligence tests for classification which resulted in placement into inferior environments. In order to change this situation, court cases such as *Diana v. State Board of Education* (1970) and *Larry P.* (1972) as well as P.L. 94-142 focused primarily on rules for using more appropriate (i.e., valid and reliable) tests and testing procedures. For example, the *Diana* consent decree mandated that California must make plans for revising their testing programs to include provisions for testing students in their native language and testing with nonverbal tests of intelligence. The state was also directed to develop ethnic norms for intelligence tests and to monitor the ethnic proportions in special classes. The *Larry P.* decision enjoined school districts from using standardized intelligence tests with black children for the purposes of EMR placement. Although not as prescriptive as these court cases, P.L. 94-142 requires that no single procedure be used as the sole criterion for determining an appropriate educational program for handicapped students and that evaluations be conducted by a multidisciplinary team.

The merits of these mandates have been debated elsewhere (Lambert, 1981; Prasse, 1980). What becomes clear is that the major purpose of intelligence tests and testing procedures is to confirm or disconfirm whether a student who has failed in a regular program is eligible for EMR status. This preoccupation with testing *per se* has directed our attention away from a far more important aspect of evaluation. That is, once the eligibility decision has been made, do the results from the various testing instruments have any further use?

Several investigators have pointed out the inability of assessment data to produce educationally relevant information that teachers can use in their classrooms (Bijou & Grimm, 1975; Ross, 1976). However, linking test data to educational programming will be a difficult task because test construction of any magnitude is a considerable investment. Nevertheless, not attempting to systematically research this area will keep us mired in the same problems which lead to contradictory decisions such as *Larry P.* and *People in Action on Special Education (PASE) v. Hannon* (1980). In short, Krathochwill (1977) suggested a research program which requires the following steps:

> . . . (a) outline how such strategies contribute to greater sophistication in prescription, (b) determine what populations can best be assessed through these approaches, (c) demonstrate how the resulting diagnostic information will generalize across different tasks, situations, individuals, and (d) develop a theoretical orientation through which systematic research efforts can be directed (p. 300).

From an instructional standpoint, two general categories of assessment variables should be explored in the above research program. First, descriptions of children should include more detail about a child's functioning level on specific tasks. The diagnostic-prescriptive teaching approach is an excellent example of an attempt to assess a student's strengths and weaknesses on particular skills. Once these student characteristics have been determined, the student is placed in a predetermined sequence of instruction. Although this approach has widespread use, evaluative data are somewhat unsupportive on its efficacy (Salvia & Ysseldyke, 1981). Nevertheless, the approach provides much of the philosophical basis for continuing research in this area.

Complementing the description of student abilities and achievement, the strategies for instructing them should also be recorded. At an individual student level, we need to know what methods are best in presenting tasks, with what materials, and for how much time. The behavioral tradition in mental retardation (Bijou, 1966) has long discussed how instructors identify goal behaviors and the reinforcement contingencies to optimize learning.

Because learning frequency occurs in groups, we must be cognizant of the social context of learning. For example, Gottlieb (1982) asked mentally retarded students to read orally in the presence or absence of non-handicapped peers. In addition, the retarded students were told that their reading performance was or was not being evaluated. Gottlieb found that, regardless of whether the mentally retarded subjects read in the presence of non-handicapped peers, their reading error rates increased under the evaluation condition. These results are not surprising. We know from the motivational literature (MacMillan, 1982) that mentally retarded students expect to fail. The mainstreaming literature has shown that non-handicapped children rarely accept and sometimes reject the handicapped (Gottlieb, 1981). Together these data argue strongly that we must describe how the teacher creates a learning situation and how that affects

student learning. From an assessment standpoint, research should begin to determine the important dimensions of this learning environment and how it can be summarized and communicated.

Describing the conditions for student learning represents a major shift in the goals of assessment and how assessment information is used. Overcoming the status quo is always difficult. To facilitate change, we should investigate more precisely how the present evaluation process operates. For example, a recent nationwide survey conducted as part of the U.S. Department of Education's evaluation of P.L. 94-142 (Applied Management Sciences, 1982) recorded the titles of instruments used to access handicapped children. The study found literally thousands of different instruments, most of which were non-standardized criterion-reference tests, observation schedules, and checklists; these instruments were typically school district specific. With such variation, we don't know what data are important in developing educational programs, whether these instruments are consistently used and interpreted, the psychometric integrity of them, and whether results from the instruments are available to school staff especially the teacher. Such a description would assist administrators in identifying and prioritizing the steps in changing the evaluation process as methods are found.

Specification of Educational Programs for Handicapped Students

One of the most influential sets of data discussed during the past 20 years has been the so-called efficacy studies. Basically, these studies compared the performance of EMR children in special classes to children who scored in a similar IQ range but were assigned to regular class settings. The results from these studies have generally found that students in regular classes demonstrated superior academic performance than those students in special EMR class. However, just the opposite was the case for adjustment. Excellent literature reviews on this subject can be found in Bruininks & Rynders (1971), Guskin & Spicker (1968), Kirk (1964) and MacMillan (1971).

The merits of these findings have been questioned because of serious methodological flaws in the research designs and instruments used. First, the studies, other than the often cited Goldstein, Moss, & Jordan (1965) investigation, used samples with built-in selection bias. The efficacy studies used intact groups of special EMR students and comparison groups of low-IQ but regular class students. Quite probably the students left in regular programs demonstrated academic achievement or adjustment which kept them from being classified as retarded. Other variables not accounted for between the two groups included differences in (a) curricula, (b) teacher training, (c) the extent to which EMR students were segregated during the school day, (d) teacher-student ratios, and (e) composition of peer groups (MacMillan, 1982). Finally, questions have been raised about the psychometric nature of the instruments used to measure adjustment. By not controlling these variables or explaining them sufficiently, alternative interpretations were forwarded for the findings from the efficacy studies.

Regardless of the equivocal findings, the data nonetheless provided an empirical base for questioning the placement of children, especially minority group students, into special classes (Dunn, 1968; Johnson, 1962). These studies certainly sensitized the profession to the philosophy of normalization or mainstreaming and more importantly brought about a re-evaluation of service delivery patterns (Deno, 1970).

However, the time has passed to think in merely special versus regular class terms. In critiquing the efficacy studies, MacMillan, Jones & Aloia (1974) pointed out that none of the studies addressed the nature and quality of the programs presented to the students in either special or regular class. Complementing teacher skill and curricula is understanding the environment in which instruction occurs. In short, variables such as types of setting, namely special versus regular class, have been treated thus far as pure types within experimental-type research designs. Unfortunately, we know very little about what happens in special education classrooms. Thus, several areas of research are discussed in turn below.

In understanding the instructional process between teacher and student, researchers in mental retardation are slowly but steadily recognizing the value of using observational techniques to analyze and classify teacher behavior toward handicapped children (Brooks & Baumeister, 1977; for an extensive discussion of the ecological approach, see Schoggen, 1978). For example, Berry & Marshall (1978) observed mentally retarded kindergarten children with minimal language development. They found idiosyncratic communication styles among mentally retarded children and high frequency of non-communication even when teachers made continued attempts to facilitate communication. Dembo, Yoshida, Reilly, & Reilly (1978) observed special class teachers of the EMR and emotionally handicapped using the Brophy-Good Teacher-Child Interaction System (Brophy & Good, 1969). They found that teachers generally phrased questions in order to elicit only yes or no responses. In addition, they found that positive reinforcement was given to the students even when they responded incorrectly to a question. In a study attempting to relate classroom climate in special classes to EMR children's behavior, Forness, Guthrie, & MacMillan (1982) found that teachers demonstrated higher than average behavior in terms of involving students in classroom activities, providing support, clarifying tasks, and generally being friendly to students. The presence or absence of these behaviors tended to have some relationship to the behavior of EMR children, especially their task attention span.

These studies are only illustrative of what the potential observational methods have in describing the instructional programs offered to mentally retarded students in special classes, resource rooms, and regular classes. The teacher behavior literature for regular classrooms provides several approaches and examples of observation systems which can be used for further investigation.

First, teaching can be described according to functions. The literature on open classrooms has shown that an important correlate to achievement is the amount of time spent on-task during an instructional period. Yet, for some special education children, their programs are assigned to resource room teachers as well as regular education teachers. Considerable time is spent moving from one classroom to another with additional time taken in each classroom for administrative chores such as taking attendance. In order to determine how teachers use instructional time, we can use, for example, Flander's (1964) system of categorizing the time spent on six classroom functions:

> (1) routine administration such as taking roll, distributing or collecting materials, and so forth; (2) evaluation of the products of learning—such as discussion of homework, test results, or student reports; (3) introducing new material—such as class discussion of a new formula (or new facts about a country); (4) general discussion of old material or current problems; (5)

> general supervision of seat work—periods when students are busy doing homework or projects . . . ; (6) teacher-pupil planning—or class discussion about organization or work (p. 211).

Second, we need to be concerned with the content of what is being presented to the student. The efficacy studies found that students in special classes had better adjustment than mentally retarded students in regular classes. Perhaps more class time was taken in special classes with social competence objectives than academic ones. Given the objectives stated in general for special classes (MacMillan, 1982) or those listed in the individualized educational programs, we can determine the extent to which teachers give attention to particular content areas.

Third, Adams and Biddle (1970) have investigated what they termed communication structure. Basically, this term is used to categorize and describe whether teachers or students initiate communication, to whom messages are directed, and in whose presence. An interesting application of this concept concerns the extent to which mainstreamed EMR students are integrated into regular classrooms. Although the accepted criterion of mainstreaming is at least 50 percent time in a regular class, the Kaufman, Gottlieb, Agard & Kukic (1975) definition emphasizes that time in a class is not equivalent to integration with non-handicapped learners. In terms of teaching behavior, the Adams and Biddle approach can help identify whether mainstreamed EMR students are isolated in classes, or participate with non-handicapped class members. In addition, we can determine whether teachers prefer to work individually, in small or classroom-wide groups, and more importantly, at all with them.

Finally, researchers should also be interested in the quality of interaction between teachers and individual students. A popular system for this kind of observation is that of Brophy and Good (1969). This system categorizes teacher-student behavior in terms of (a) whether teacher questioning was intended to solicit a creative, informational, or yes-no response, (b) how the student responded to the question, (c) whether the teacher gave feedback and its nature, and (d) the succeeding behavior which completed the interaction. Using this system, Brophy and Good (1970) found that first grade teachers differentially reinforced students whom they perceived as high and low achievers. Also, low achievers were asked questions which were intended to yield yes-no responses. When low achievers responded incorrectly, teachers rarely provided support to help those students; teachers turned their attention and asked questions of high achieving students.

Using the Brophy-Good system, Dembo, et al. (1977) found that special education teachers rarely posed open-ended questions to EMR students and they often praised students for incorrect answers. Clearly such a teaching style gives little feedback to the EMR student about what should be an appropriate response. Perhaps teachers were overly concerned with not reinforcing EMR students' expectancies for failure. Thus, the nature of teacher questioning, reinforcement, and support to mentally handicapped students may be highly related to whether those students achieve. Differential treatment may affect how mentally handicapped students achieve regardless of setting.

In short, evaluation of the efficacy studies has clearly shown that we know very little about what curricula and teaching strategies compose the settings and educational programs offered to mentally retarded students. Recognizing this deficiency, several investigations are beginning to appear which attempt to identify consistencies in teacher/

student behavior in classrooms and whether those consistencies relate to student achievement and adjustment. Investment in this type of research addresses some of the deficiencies raised about the efficacy studies and helps us consider the issues concerning the ecological validity of our findings.

Post-School Adjustment and Life Long Learning

One of the most important issues raised in the *Larry P.* case was how little we know about what happens to mentally retarded students once they leave school. In order to justify placement into any special program, data must become available to demonstrate that special programs do assist children in adjusting to adult life. It is ironic that an often heard lament is that studies are generally of a cross-sectional nature with the longitudinal effects of a treatment/program ignored. If we extend our concern about longitudinal studies a bit further, we should also become uneasy about the lack of current information concerning an ultimate goal of the school namely, the successful adjustment of students to adult life. Perhaps the non-experimental nature of these studies and the difficulties in conducting them have influenced researchers not to attempt them. Nevertheless, the justification of current service delivery models for the handicapped will depend on such data. Thus, straight forward questions can be posed such as: are the mentally handicapped employed, in what occupations; do they have friends; do they participate in community activities; what do they do with their leisure time?

Besides gathering current status data, these studies could provide very useful information about what educational programs may be appropriate at a given time. For example, programs can be very general giving the handicapped access to classes which are consistent with the current attention over life long learning. In terms of specific job-related skills, continual investment in collecting and reporting information about handicapped adjustment and experiences will help identify timely instructional objectives because both the private and public sectors change their employment needs in response to changes in the economy. Given the learning characteristics of mentally retarded persons, systematic instruction in these skills may help in securing employment for them. In short, studies become planning in nature as well as evaluative.

Normalization of Handicapped Persons

Dates of court cases and legislation are often used as landmarks for signaling changes in public philosophy and policy. However, they are better understood as the culmination of a long concensus-building process by which certain principles are legitimized. This was the case with institutionalized mentally retarded persons. Lakin, Bruininks and Sigford (1981b) point out that before we even heard about *Wyatt v. Stickney* major changes were already occuring since the 1950's such as the decrease in the size of institutions and staff-to-resident ratios in these institutions, and the increase in the commitment of dollars to these programs. Many of these changes were caused by the "decentralization" concept which was premised upon the idea that smaller institutions would result in more staff time spent with residents and that residents should be located closer to their families and home communities. These arrangements were thought to mitigate the impersonal environment of the institution. An extension of these ideas led to the proposition that removal from the institution to less restrictive environments namely, community-based placements, was desirable.

Before discussing the issues concerning community placements, we must acknowledge that, even with the decline in the total numbers of mentally retarded persons in public institutions, about 150,000 still reside in them (Lakin, et al., 1981b). The prognosis for significant decline in this population within the next few years is poor. The mentally retarded persons who have left or could shortly leave are probably the most capable of making an adjustment (Brothwick, Meyers, & Eyman, 1981). For those remaining in institutions, *Wyatt v. Stickney* stated principles for adequate habilitation which are basically the same as those for community placements. That is, mentally retarded persons should be offered the opportunity for smaller living units with less structure, individual residences, institutions which are more integrated into the community, and programs to encourage independent living. Although this section will concentrate on mentally retarded persons in community placements, the research issues defined below apply as well for those in institutions.

First of all, research on community placements has the potential of making the same conceptual and methodological errors as those in the efficacy study research. The natural tendency of policy makers and researchers alike is to question whether (a) community placements are better environments than institutions and (b) a particular community placement is better than another. In either case, one uses a two-sample or k-sample comparison design which presumes within-group homogeneity of the independent variables. However, regardless of placement model, some preliminary observational studies of community placement (Landesman-Dwyer, Stein, & Sackett, 1976; Gollay, 1981 reporting the results of the large-scale Abt (1978) study) have found considerable interfacility differences within, for example, group homes. Lakin, et. al. (1981a) have pointed out that size of the facility or its geographical location may have more to do with the way in which its clients interact with staff members and the community than a particular placement model. In short, a first step appears to be a description of rather complex environments which can then be classified on salient dimensions; descriptions which are more detailed than merely stating a facility is a group home, foster home, and so on.

Second, research has begun to show that community facilities vary in program content and the interaction patterns between residents and staff (Bjaanes, Butler, & Kelly, 1981; Landesman-Dwyer, et. al., 1976). Complementing this finding, Borthwick, et. al. (1981) found consistent relationships between resident characteristics and type of facility. Together these findings suggest that personnel in either the institutions or community placements are applying some systematic criteria in deciding where the mentally retarded are to be placed (Sutter, Mayeda, Yee & Yanagi, 1981). However, making individual clinical judgments about mentally retarded persons is tenuous at best when based upon relationships found with group data. In addition, our measurement of the setting and resident variables are too general at this time. It is clear that, if normalization is to succeed, optimal matching of clients to environments is necessary. Such matching is more critical in order to transition the remaining more severely handicapped from the institutions.

Finding specifics to this link is no easy task. Lakin, et. al. (1981b) stated this problem well:

> As far back as 1937, Doll and Longwell were proposing that the Vineland Social Maturity Scale be used to assess those persons being considered for community placement. This rec-

> ommendation was based upon their findings of correlation between average social maturity score of those persons in various residential settings and the level of independence perceived as necessary in each of those settings, i.e., parolees had the highest group rating, colony residents the next highest, and boarding care (family care) and institutions residents the lowest. Never, however, did the writers attempt to assess these settings in regard to the level of social competence and particular life skills required to reside in them successfully (p. 398).

Third, in hurrying to meet the mandates of deinstitutionalization, we inadvertently may be setting up a frustrating and perhaps failing experience for both mentally retarded persons and their caretakers. In an analogous situation, California decertified thousands of EMR students who had IQs of 70 or above in response to the original *Larry P.* decision (Meyers, MacMillan, & Yoshida, 1975). Most of these students were placed into low achieving classes; almost without exception, no supportive programs were developed to help the students make the transition to regular class. Neither were teachers prepared to receive them. Although there were no reports of massive dropouts or reassignments to special class in the first year after transition, we don't know whether the students "succeeded" or whether some supplementary programs could have enhanced their achievement or adjustment.

Given the differences in community placement philosophies and operations, Lakin et. al. (1981a) suggested research programs in two types of training. First, mentally retarded persons can be trained in the skills required for a particular environment. For example, Schalock and Harper (1981) reported that mentally retarded persons made significant gains in acquiring independent living skills when they were provided training in personal care (hair care, hygiene), clothing care and use (washing/drying, repairs and alterations), food preparation, time management, community awareness, and communication techniques. These skills positively related to success in adjusting to supervised or independent apartment living. Similar programs have proven to be helpful to mentally retarded persons assigned to apartment living (Kasanovich, 1980; Seever, 1975). Nevertheless, more research must be conducted on other settings and with more severely handicapped persons.

The other training issue concerns staff members. Given the idiosyncracies of community placement programs, what kinds of personnel should be selected and what should be their training? Programs reflect the philosophy of the staff and their experiences, resulting from formal training or "on-the-job" observations. These experiences influence the types and quality of the strategies they will use in working with their residents. Although some training programs have been reported, how extensively has training occurred and does the extent to which staff members have been trained affect the quality of the mentally retarded person's environment? Without appropriate training and monitoring, community placements may not develop environments qualitatively different from those in institutions (Edgerton, 1975).

Finally, the issues presented thus far have focused on programs and their effects on clients. These programs exist as part of a larger service delivery system which has changed in organizational and administrative structure as a result of policy shifts. However, these systems are dynamic and are in continual flux depending upon the prevailing political, economic, and bureaucratic climate. It is not surprising that Lakin, et. al. (1981a) reported that several participants of a special invitational conference on community adjustment at the University of Minnesota posed the following questions:

> Who is responsible for coordinating the provision of services and how effectively are such services planned and coordinated? What system modifications are needed in this area? (p. 403)

Answers to these questions can help service providers locate resources in terms of dollars and expertise, prioritize the development of new settings, and reduce the overlap in services. Nevertheless, very few reports of this kind are found in the literature; an exception is the work of Brewer and Kakalik (1979). If the normalization movement is to maintain its momentum, a commitment to this type of research is recommended.

Conclusion

The field of mental retardation has undergone tremendous changes over the past decade in response to public policy. The major tenet of this change is the philosophy of normalization and mainstreaming. Specifically, school personnel had to become more careful in identifying and labeling persons as mentally retarded. If children were identified, they were then placed in the least restrictive environment possible such as the regular class or more typically the resource room. As a result, enrollments have dropped dramatically in programs for the mildly mentally retarded children and youth. More importantly, the nature of these programs has changed as well. Similarly, the more severely handicapped have increasingly been placed in the community (group homes, apartments, with their own families) rather than in institutions.

In response to this transformation, considerable research efforts have been initiated much of which was not mentioned in this chapter. But for those topics that were discussed, the questions posed were fairly predictable. For example, when discussing mainstreaming placements, research has asked whether regular class is a superior placement in comparison to resource room or the segregated special class. Our general research approach in exploring these questions has traditionally been experimental or quasi-experimental. This approach assumes a consistency in the way variables manifest themselves; as an example, special classes are presumed to be the same in terms of curricula and quality of environments. However, MacMillan, Meyers, and Morrison (1980) has emphasized the complexity of environments and mentally retarded persons' experiences with them. It is clear that we know very little detail about these environments or experiences. What is needed now is a greater commitment to alternative methodologies which will yield more precise descriptions of mentally retarded person's lives and how institutions interact with them.

Perhaps the research issues raised in this chapter will be viewed as a retrenchment from progress into new topics. However, without having a clearer understanding about how major variables in our research operate (even for those questions we believed we have answered), we will perennially conclude that the results from our studies are tenuous at best.

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Perspectives on Severely Multiply Handicapped

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Severely handicapped people represent an extremely heterogeneous group of individuals (Guess & Mulligan, 1982). As a result one sees a great deal of variability in the definitions and descriptions of this population (Justen & Brown, 1977; Baker, 1979). Two generally agreed upon characteristics of members of this population are their inability to be their own advocates and to make informed decisions for themselves. Throughout their lives, even before their births, severely handicapped individuals are the focus of a number of legal, moral and ethical issues which must be addressed by their family members, their physicians and by society itself. These include questions regarding their right to be born, their right to live, their right to an education, and their right to participate in life, side by side with non-handicapped people. Until recently, decisions made by others such as withholding medical treatment from severely handicapped individuals, excluding them from school or educating them separately from non-handicapped individuals were routinely made without notice. That is, no one challenged the decisions made by parents or professionals, nor their right to make these decisions.

Times have changed. There has been an increase in concern regarding the rights of all individuals, including minorities such as the severely handicapped. Advocates for the severely handicapped are becoming larger in number, more experienced, and consequently, increasingly effective. An example is the investment of effort by parents to assure that their children were not routinely denied educational programs. Such work of parents and professionals at state and district levels (PARC v. Commonwealth of Penn., Mills v. The Board of Education) provided the basis for P.L. 94-142, the law designed to assure their children the right to an appropriate educational program.

Many assumed that the passage of P.L. 94-142 would represent the end of the war—that advocates could be assured that never again would individuals with severe handicaps be excluded from educational programs. However, less than five years since the implementation of the law, professionals are disagreeing about the appropriateness of providing educational programs for all children. Some, in particular, are challenging the zero-reject component of P.L. 94-142. These individuals believe there exists a population of severely and profoundly handicapped individuals for whom educational intervention is not appropriate. Their arguments are based on certain legal, ethical, and social considerations; some of the same bases initially used by those advocating for the zero-reject component of the law.

Areas outside of education have also become controversial. Advances in medical technology have posed some questions never before in need of consideration. It is only recently that we have been able to prenatally detect the presence of a severe handicapping condition. With this knowledge and with the legalization of abortion, selective abortion is now an option. While some see this as a method of assuring newborns the right to healthy lives, others see this as a method of discriminating against the handicapped.

Life saving procedures have provided us with the ability to extend and/or maintain life in many individuals who in the past would have died. This has caused some to ask if these procedures should be used with all children or if some children are so severely damaged that the supposed poor quality of their future life would not be worth living. Others argue against this practice and assert that the quality of one's life cannot be determined at birth—and that we can only make assumptions about the handicapped individual's desire to live. There, of course, is the economic issue of the costs to the public in providing the range of services required by this group.

In addition to the issues confronting the education and medical treatment of severely handicapped persons, controversy continues around their access to normalized settings for living, schooling, working, and playing. In spite of legislation supporting the integration of severely handicapped individuals into more normalized settings (i.e., P.L. 94-142 and Section 504 of the Rehabilitation Act of 1973), the advantages and disadvantages of segregated educational facilities continue to be debated. Segregated schools, institutions, sheltered workshops, and handicapped recreation programs continue to be the norm in most states.

Since severely handicapped individuals are unable to make informed decisions for themselves concerning these life-span issues, it becomes the responsibility of parents and professionals to speak for them. This requires that advocates become as knowledgeable as possible in each area of concern.

Selective Abortion, Fetal Therapy and the Severely Handicapped

Until recently the human fetus was a "medical recluse in an opaque womb" (Harrison, Golbus, & Filby, 1981, p. 774). All of this changed with the development of amniocentesis techniques in the 1960's. Amniocentesis permits the detection of chromosomal abnormalities such as Down's Syndrome, inborn errors of metabolism such as galactocemia, and biochemical disorders such as spina bifida. Ultra sonographic techniques have also been developed, providing the possibility of learning about both the position and gestational age of the fetus and the presence of multiple births (Powledge & Fletcher, 1979).

The fetus no longer is a mystery with the climax revealed only at birth. Consequently, if a fetus is abnormal in some ways, that knowledge can be obtained early in the pregnancy. "Various kinds of prenatal diagnoses are available, and the array of techniques is likely to expand even more in the future. None of them are without technical problems. Most are experimental and not yet standard practice. All of them present other kinds of problems—moral, social, and legal as well—that, though often acknowledged remain largely unresolved." (Powledge & Fletcher, 1979, p. 169). The issues relate both to: 1) the use of these procedures, that is, should prenatal screening be routinely used for all women or just for those at risk for having children with handicapped conditions, and 2) the decisions made after the use of these prenatal diagnostic procedures as they relate to abnormal fetuses. It is the second issue which will be discussed in the following section.

In the past, two natural courses of action existed for a fetus with abnormalities: spontaneous abortion and completion of the pregnancy to term. With the advent of the prenatal diagnostic procedures, two additional options have emerged: selective abortion of the abnormal fetus and fetal therapy. It is these two more recent procedures which have become an issue when used with the severely handicapped. The controversy arose from the obtrusive nature associated with these procedures. In the case of spontaneous abortion, no deliberate decision had been made to terminate the pregnancy—neither the parent, physician nor society had decided it was in the best interest of themselves or the fetus that the pregnancy be terminated. The same is true of completion of the pregnancy to term. In the cases of fetal therapy and the selective abortion of an abnormal fetus, however, a conscious decision is made to treat or not to treat and to abort or not abort. Since the decision is deliberate and someone else makes the decision for the fetus many questions are raised about the use of these two procedures. The following discussion will review the first point of potential controversy occurring so early in the life-span of a severely handicapped person. First, the justification for and the arguments against selective abortion will be presented. Second, the new field of fetal surgery and its potential controversies will be reviewed.

Selective Abortion

Justification for Selective Abortion. Many assume that the birth of a child with a developmental disability results in tremendous cost—costs are both emotional and financial and they may include the child, family and society at large.

For the child born with a severe handicap the future can hold a number of difficulties. Newborn children with Down's Syndrome who have accompanying congenital abnormalities (such as an intestinal blockage), are likely to face major surgery, as will children with spina bifida and hydrocephaly. Children with Tay Sachs may initially encounter no difficulties but eventually face death before age five. Individuals with severe handicapping conditions, in addition to the medical problems, may confront problems related to their interactions with others. They are often the brunt of abuse and neglect (Soeffing, 1975), of cruel ridicule, and of sibling resentment. Given these viewpoints, some would assert that development to term may only result in a future lifetime of suffering for the child. It can be argued, from this perspective, that the fetus has a right to avoid this bleak situation.

Parents and the entire family will be affected by the presence of a severely handicapped child in the family. Orelove (Note 1) points out it should be the parents' right to act

in accordance with their ability to cope with the birth of a handicapped child. The increase in the amount and duration of care required may be beyond the family's ability or desire to provide. Substitute care in the form of babysitting, day care, and respite care are difficult to find. The economic burdens can be tremendous. Medical treatment, special equipment and specially trained sitters (if available) are just a few examples of the expenses which can be encountered. Additionally, meeting those costs may be limited by the inability of the parents or one of the parents to work due to the increased care needed by the child. Parents may decide they simply cannot afford, either emotionally or financially, to have a handicapped child.

Society also has an interest in preventing the birth of handicapped children. Costs are necessarily higher for the education and care of handicapped children. Since many parents are not able to pay the high costs of medical and therapeutic treatment for a severely handicapped child, society often assumes this responsibility. While increased numbers of severely handicapped individuals are staying at home (Scheenerberger, 1982), many eventually reside in some kind of a residential program supported by local, state or federal funds. From a societal perspective, the prevention of a disabled individual, which will potentially drain valuable resources, may be viewed as economically sound (Abroms & Bennett, 1980; Begab, 1974; Orelove, Note 1).

Arguments Against Selective Abortion. The strongest argument heard against selective abortion are those expressed by groups against abortion regardless of the normalcy or abnormalcy of the fetus. The basis of their argument is that life begins at conception and abortion of any fetus is to be considered the taking of a life.

Others consider selective abortion to be a special case of discrimination (Smith, 1981). Since fetuses cannot make their own decisions others decide for them. Clearly one intent of amniocentesis is the detection of abnormalities for the purpose of abortion. In fact, in some cases, physicians would only perform amniocentesis if the woman undergoing the procedure would agree that if the fetus was found to be defective an abortion would be performed (Powledge & Fletcher, 1979).

This discrimination is further illustrated by individuals who are generally against abortion, but favor it when the fetus is found to have Downs' Syndrome (Smith, 1981). Justification for this action may be based on the belief by some that severely handicapped individuals are, in essence, not really human. To those who subscribe to this belief, abortion becomes "palatable" (Smith, 1981, p. 9). Walmsley (1978) suggests that there is a trend in our society which involves the development of an evaluation regarding "humanness" and that this must become a basic concern of professionals, particularly professionals in the field of mental retardation. Concerning the need for professional awareness, Wolfensberger (1981) reminds us that the euthanasia movements in World War II Germany developed within a culture of medicine, modern intellectualism, academicism, and scientism.

Opposition to selective abortion can also be based on its implications for other practices (Orelove, Note 1; Smith, 1981). If it is decided that Down's Syndrome fetuses do not have a right to be born, then it follows that a neonate with the same syndrome should not have a right to live nor should a Down's Syndrome fetus have a right to fetal therapy.

The concern is that if the intent is to eliminate individuals with handicapping conditions, the practice may not stop at the prevention of birth. Acceptance of this practice may

then serve as justification for infanticide and euthanasia (Orelove, Note 1). This argument is supported by Wolfensberger (1981) who points out that the extermination of Jewish people in World War II Germany "evolved out of the desensitization, legitimization, personnel preparation and equipment development associated with the killing of handicapped people" (p. 3). Many share these same "desensitization" concerns about selective abortion.

Others arguing against selective abortion are concerned about the criteria used to prevent the births of individuals with handicaps. At this time selective abortion is done on the basis of prenatally detected handicaps. A growing fear is that the criteria could be changed to include, for example, all fetuses conceived by a woman after the birth of a baby with disabilities not detectable by amniocentesis, or all fetuses of potentially affected relatives.

Parents are given almost exclusive right to determine whether or not to abort a handicapped fetus. As previously discussed, many emotional and economic burdens may be felt by families with a handicapped child. A central question is whether the parents' right to decide to give birth to a child with a handicap supercedes the handicapped child's right to be born? Often parents make the decision to abort without the benefit of sufficient information about handicapping conditions (Smith, 1981). The assumption, for example, is that all Down's Syndrome children will be severely retarded and experience endless suffering. Much information exists providing evidence contrary to this belief. Some professionals are not aware of this evidence (Smith, 1981).

Fetal Surgery

As a result of advances in scientific knowledge and technology, it is now possible to perform certain types of surgery on the unborn child. Improved utilization of ultrasound and amniocentesis has resulted in the diagnosis of a number of fetal anomalies that may be treated in utero. If these abnormalities are diagnosed and treated early in gestation, fetal growth and development may continue in utero until the fetus can safely make the transition from the uterus to outside the uterus (Clewell, Johnson, Meier, Newkirk, Zide, Hendee, Bowes, Hect, O'Keefe, Henry & Shikes, 1982). One can predict that in the near future parents will not always be faced with the "abortion/no abortion" dichotomy; fetal surgery will become an increasingly available alternative to the abortion of a fetus with certain diagnosed abnormalities. For the fetus with diagnosed hydrocephalus, surgical implantation of a shunting device offers a reasonable hope of permanent relief from the effects of increased intracranial pressure (Clewell, et. al., 1982). Before fetal surgery was an option, prenatal diagnosis of hydrocephaly resulted in the parents either terminating the pregnancy or carrying the pregnancy to term in hope that the infant could be successfully treated with a shunt procedure following birth. Unfortunately, many infants are subjected to severe brain damage by the time of birth (Clewell, et. al., 1982).

Prenatal blood transfusions for the control of blood disease was one of the first procedures performed in utero (Liley, 1963). Another anomaly that has been treated prenatally is hydronephrosis (blockage in the urinary tract). Hydronephrosis could be fatal or may result in permanent kidney damage or severe anomalies of the face, limbs, and lungs. This condition may now be treated by inserting a catheter into the bladder of the fetus (Henig, 1982) or by removing the fetus from the uterus (Harrison, Golbus, Filly, Callen,

Katz, DeLorimier, Rosen & Josen, 1982). Interventions for other fetal anomalies, such as spina bifida, are in the early experimental stages (Michejda & Hodgen, 1981).

Fetal surgery is not however, without risk. Harrison, Golbus & Filly (1981) suggest that for the fetus, the risk of the therapy is weighed against the possibility of correction or amelioration of the malformation. The benefit to be derived from correction depends on the severity of the anomaly and its possible consequences in survival on the quality of life. In terms of the mother, Harrison and his colleagues feel that the risks are not as great as for the fetus, and will vary greatly according to the magnitude and invasiveness of the procedure. Risks to the mother, however, may take other forms. For example, in the case of hydrocephalus, the parents may opt for the surgical procedure over the option of abortion. The implantation of the prenatal shunt however, may have other than totally successful outcomes. There is also the risk that the hydrocephaly was only part of a broader problem and the child will still be severely handicapped. If the parents' decision was based on the hope of having a "normal" child, then the emotional risk is great. If the child does not live, then the parents are faced with the possibility that the child could have survived without their intervention.

As is the case with all developing technologies, time and experimentation will overcome many of the risks. For example, the major barrier to fetal surgery is the danger of inducing preterm labor and miscarriage (Harrison et. al., 1982). With new powerful anti-labor drugs, however, this danger has been greatly reduced. Caution must be taken not to implement new procedures until there is a high probability of success. How high that probability must be to initiate a procedure is a complex question and raises many of the same questions as the abortion issue, e.g., the rights of individuals. Until fetal surgery is more extensively researched and implemented, parents are faced with much uncertainty. The ex-utero procedure for hydronephrosis performed by Harrison and his colleagues, was unfortunately too late. The child died soon after he was born; the damage done before surgery was too great. Fetal surgeons are now trying to determine which fetuses to treat and when (Henig, 1982).

Advances in scientific knowledge and technology create ethical dilemmas for society (Barclay, McCormick, Sidbury, Michejda, & Hodgen, 1981) and sometimes new interpretations and applications of personal values. The ethical dilemmas arising from this issue seem to cut across three general categories: conflict of interest, withholding treatment, and differential treatment of severely handicapped fetuses.

Presently, the mother must give consent for fetal therapy. This might result in conflicts between the perceived interests of a fetus with a (potentially) correctable defect and the interests of the parents (Fletcher, 1981). If there is danger to the mother, whose rights come first? Fletcher states that "as long as the fetus is not separate from the mother, choices about treatment ought to be made only with her informed consent." (page 772). However the question is not so simple. Barclay and his colleagues pose the question of who has the right to decide on the future of an unborn child when corrective surgery is available. Should the fetus have an advocate? Unlike surgery with older people that aims to simply extend life, prenatal surgery may be able to prevent harm and improve the quality of life for perhaps 75 to 80 years (Barclay et. al., 1981). Others argue that this outcome is not guaranteed. Father McCormick, Professor of Christian Ethics at Georgetown University believes that where effective treatment is available, treatment is the only morally defensible alternative (Barclay, et. al., 1981).

For the present time, this issue will probably be treated within the existing legal parameters of abortion (Fletcher, 1981).

Following the question of "who decides?" is the issue of withholding treatment from a fetus with a potentially correctable defect. Can this situation be paralleled to the Phillip Becker case where corrective treatment of a heart defect is being withheld? Another parallel drawn by Barclay and his associates is that of withholding treatment because of religious convictions. That is, an adult who is a Jehovah's Witness could choose not to have medical treatment, while a child of the same faith will usually be made a ward of the court and treatment will be provided. Does this provide precedent to mandated treatment of the fetus? The major difference between these two situations and fetal surgery is the invasion with regard to the mother (Barclay, et. al., 1981); that is, in the Becker case and the Jehovah's Witness situation, there is no potential physical risk or intrusion to the mother.

Another issue arises that concerns the discriminatory use of fetal surgery. As fetal surgery becomes more researched and utilized there is the possibility that it will be used selectively. Will procedures be applied to only those fetuses where mental retardation will likely be prevented or to fetuses who are not retarded? For example, if a fetus detected as Down's syndrome also suffered from hydronephrosis, would bladder catheterization be withheld from the fetus?

Certain legal implications may result from the progress in fetal therapy. Barclay and his colleagues (1981) point out the future possibility of malpractice charges if a child is born with a defect that was prenatally treatable. Another potential issue that can be raised is that of equal protection: does an unwanted fetus with a treatable defect have the same right to treatment as a wanted fetus with the same defect?

There is a final very important issue that underlies the field of fetal surgery and impacts on the abortion issue. If one follows the logic that surgery and therapy can be administered to a fetus, then what is the status of the fetus? Does the fetus become a "patient"? According to Barclay et. al., a patient is a person. Consideration of the fetus as a person would certainly impact on treatment of the abortion issue. For the physician certain dilemmas will follow from this logic; can a physician encourage fetal therapy on the one hand, and at the same time respect a parent's choice about abortion?

The growth of the field of fetal surgery is exciting. As our ability to treat certain fetal anomalies becomes more available, society, and each individual within society, will be challenged with new moral, ethical and legal issues. Similar issues have been raised about abortion. These challenges and new applications of our values must be faced by everyone, no matter how complex the issue is.

Euthanasia and the Severely Handicapped

The handicapped have a long history of being subjected to infanticide and euthanasia. Ancient Greeks and Romans often killed or abandoned children who were not considered to be the best examples of the human species due to disabilities. The Roman Law of Twelve Table declared it illegal to care for children with deformities (Fontana, 1976). Aristotle is reported to have said "As to the exposure and rearing of children let there be a law that no deformed child shall live" (Furlow, 1973, p. 85). Examples of these practices can be found throughout history including the present.

Recent advances in medical technology have resulted in improved treatment for the neonate. In the past many children died within the first few minutes or days of life. The advances in medicine have enabled many of these newborns, with and without disabilities, to be kept alive. Many such patients go on to live normal, healthy existences; others continue to live, but with varying degrees of handicaps.

Not everyone (parents and physicians) chooses to use the technology which is available. In 1973, Duff and Campbell reported that of the 299 consecutive deaths in a special care nursery between January 1, 1970 to June 30, 1972, 43 of the deaths were a result of withholding treatment. Of that 43, 15 of the children had multiple anomolies, eight had trisomy, eight had cardiopulmonary difficulties, seven had meningocele, three had central nervous system disorders, and two had a short bowel syndrome (Duff & Campbell, 1973).

Affect (1980) reviewed four surveys of physicians' attitudes toward discretionary treatment of Down's Syndrome infants. One consistent finding throughout the studies was the differential treatment which physicians would provide when comparing the children with Down's Syndrome to non-handicapped children. A majority of physicians indicated that they preferred not to use the same aggressive measures to treat Down's Syndrome infants with life threatening conditions as they would use for non-handicapped infants. They also indicated that they would seek a court order to override a parent's decision to withhold treatment if the child was non-handicapped, but fewer indicated that they would do this if the child had Down's Syndrome. While these attitudes may or may not translate into practice, there is clearly a *desire* to provide differential treatment of handicapped children.

The cases of Baby Doe, Phillip Becker, and Saikewicz illustrate the issue across the lifespan of retarded individuals. These cases demonstrate the application of euthanasia during the stages of infancy, adolescence and adulthood.

Baby Doe was born in an Indiana hospital in April, 1982. The infant boy had Down's Syndrome and was lacking a mouth to stomach passage for food. The parents decided against the corrective surgery and against feeding the infant intravenously. The hospital staff went along with the parents' wishes and did not obtain a court order to override their decision. The infant died several days after his birth.

In the case of Phillip Becker, a routine examination of a 13 year old boy who had Down's Syndrome discovered a presence of a heart defect which uncorrected will lead to a slow painful death. It is, however, a common defect which can be corrected by standard surgery. For individuals with Down's Syndrome the surgery has an increased risk factor of only 5% (Stein, 1982). Phillip's parents have refused permission for his surgery. The Juvenile Probation Department of Santa Clara (California) Court initiated a non-criminal proceeding charging that the parents were denying the child a necessity of life. The parents argued against the surgery on three bases: 1) risk of the surgery due to the Down's Syndrome; 2) fear the surgery would succeed, and he would outlive his parents and be destined to receive poor care (even though he had been residing in residential facilities since birth and was rarely visited by his parents); and 3) his life is of such poor quality it is not worth living (Will, 1980). The court agreed with the parents regarding the increased risk of the operation and the parent's rights were upheld on that basis.

In an appeal of the decision, the prosecutor argued that the decision to withhold treatment was based primarily on the quality of life not on the issue of risk vs. benefits; however, the decision was to uphold the previous judgement and was again based on the increased risk of surgery (Stein, 1982). As appeals continued, Phillip's condition, however, continued to deteriorate. Only after four years of court proceedings has this case been resolved. A couple who had been involved with Phillip in his institutional placement have been granted legal guardianship and are proceeding with medical treatment for him.

In the Saikewicz case, a severely retarded 65 year old man who had been institutionalized most of his life was found to have leukemia. Saikewicz was not provided with medical treatment for his illness. The court decided that treatment should not be provided since Saikewicz's retardation would prevent him from understanding the negative side effects of the leukemia treatment. It was recognized that because of his potential lack of understanding regarding the treatment, he may not have been able to benefit from the medical care. The court said, however, that the decision was not made on the basis of the retardation, but on the basis of ability to benefit from treatment (Annas, 1982).

The Issues

The issues surrounding euthanasia and the severely handicapped relate to: 1) the reasons for or against withholding treatment, and 2) who has the right to decide for or against it.

Basis for Withholding Treatment. It is reasonable to argue that a decision to withhold treatment should always be made from the point of view of the patient. It is conceivable that for some patients, "if life will be full of irremediable pain and suffering, then he or she may have no interest in staying alive" (Robertson, 1982, p. 223).

The problem with this rationale is our inability to predict—to predict when the long awaited cure will be found and if the individual really will suffer to the extent thought (Dussault, Note 2). Because we cannot ask neonates and most severely handicapped individuals if they want to live or die, we must make assumptions which may not be valid. One such assumption often made is that individuals with Down's Syndrome suffer so much that they would not be interested in living. One could only speculate how a severely handicapped person would respond to this question.

When physicians were asked on what they based their decision to withhold treatment for Down's Syndrome children requiring medical treatment, they indicated the following factors in the order listed: 1) the potential quality of life, 2) possible adverse effects on the family, 3) infant's probable I.Q., 4) parent's willingness to raise the child at home, and 5) the cost to society (Shaw, Randolf & Manard, 1977). While quality of life was indicated as the primary basis for withholding treatment by physicians, Stein (1982) argues that the use of quality of life to support euthanasia "is contrary to the principle upon which this country was founded: 'We hold these truths to be self evident, that all men are created equal. . . .'" (p. 203).

Shaw (1978) points out that it often becomes unclear as to who's quality of life is being considered—the patient's, family's, or society's? Clearly the presence of a handicapped child in a family affects the family differently than does a non-handicapped child. Parents' reasons for withholding treatment may include the desire for a normal family, concern

about the impact of the handicapped child on peers, or the burden of caring for a severely handicapped child as related to time and money in addition to concern about the pain and suffering of the child. Excepting pain and suffering, are any other reasons valid to terminate the life of a severely handicapped child? The parents of Phillip Becker argued against his life saving treatment. However, whether their reasons were for risk of death or for quality of life are not clear. The basic issue here is whether the rights of the parents can supercede the right of the severely handicapped individual to live.

Fost (1981) advocates that physicians should provide treatment to all children regardless of the severity of the handicap. He points to the risk of civil and criminal liability on the part of all involved in the decision making to withhold treatment. He adds that while prosecution typically has not occurred one cannot assume it never will.

Discrimination on the basis of handicapping conditions presents another legal question. As previously discussed, physicians prefer to treat Down's Syndrome individuals differently than non-handicapped children (Afflect, 1980). Robertson (1982) suggests that the Phillip Becker case was clearly a case of discrimination, that is, "it is widely recognized that if Phillip were normal, surgery would clearly be seen to be in his best interest." (p. 222). But since the child has a handicap, the decisions and rights of the parents have superceded that of the child. President Reagan recognized similar discrimination in the Baby Doe case. When Baby Doe was denied treatment, he issued a warning to the Department of Health and Human Services that such practices are clearly a violation of the Rehabilitation Act of 1973, disallowing discrimination on the basis of a handicap by agencies receiving federal funds.

Who has the Right to Choose. Arguments can be made for and against an individual's right to terminate his or her own life either as suicide or by recorded order to family or physicians in a living will. But for severely handicapped infants and children this is a moot point. Their wishes are unknown and unknowable (Foss, 1981). Others must assume responsibility for deciding for them. Who has the right to choose? Four parties are often considered as having the authority to decide to withhold treatment: the parent, the family, the physician, or the courts.

In most situations, parents are given the responsibility for making decisions for their children. It is assumed that parents will act in the best interest of their children. In the case of parents having to decide about administering or withholding treatment to neonates, the parents may be unable to make rational decisions (Trinkaus, 1982; Fost, 1981). They may be overcome with shock and grief, rendering them unable to assimilate information provided and to make informed decisions (Fost, 1981). Duff (1981) disagrees, stating that while parents might be upset by the dilemma, they become no less intelligent nor less able to make informed decisions. Additionally, most parents have not had previous experience with handicapped individuals and consequently are not able to make decisions based on that knowledge.

Individuals who question whether the family can make informed decisions believe it is the responsibility of the physician to work with the family in deciding the appropriate course of action. Concern is expressed regarding the physician's responsibility to objectively present information, preventing the transmission of biases (Trinkaus, 1982; Afflect, 1980). Duff (1981) believes that the hospital staff plays too large a role in convincing the parents to aggressively administer treatment. He argues that hospitals

operate under the principle of optimism and often decide to treat even when the treatment itself would result in excessive suffering on the part of the child and family. The studies reviewed by Afflect (1980), however, contradicts this. Afflect found that the majority of physicians preferred not to treat handicapped individuals.

Many physicians apparently base their decision to treat handicapped children without the benefit of knowledge of such individuals. Shaw (1977) found that less than 25% of the physicians surveyed based their opinions regarding discretionary treatment for Down's Syndrome children on mental retardation literature. The remaining 75% of the population based their opinion on knowledge of families who had retarded children.

In deciding whether to withhold or provide treatment to a severely handicapped child, the courts are often asked to intervene when conflicts arise between the parents and physicians or when the physician is accused of not acting in the best interest of the child. Physicians (Jonsen, 1982; Duff, 1981) and court representatives (Stein, 1982) agree that "the courts of law are poor procedural devices for resolving these types of questions . . ." (Stein, 1982, p. 201). The courts operate on the basis of facts, but euthanasia issues seem to be considered a matter of judgment (Stein, 1982). The courts are, therefore, usually willing to rely on professional and parental judgment in making their rulings.

Often the decisions made by the courts reflect the parents' wishes. Robertson (1982) believes that the court's willingness to defer to parents' decisions to withhold treatment may stem from factors: 1) a firm tradition of respect for parents' rights to raise the children as they wish; 2) sympathy for parents of a handicapped child; and 3) bias against the handicapped. The result of court intervention is a decision like the Phillip Becker case when "parent sovereignty has here been carried to absurd, not to mention lethal lengths" (Will, 1980).

Educability

Before the implementation of P.L. 94-142, the educability of any child was determined by local school districts. The child was simply denied access to education if it was decided that the child was not educable (Martin, 1981). In 1975, it became legally mandated that all handicapped students have a right to a free-appropriate public education. A change in policy like this cannot be established or maintained unless there are some generally accepted social and political beliefs and values that helped create a climate to allow this dramatic change of public policy. Turnbull and Turnbull (1979) identify some of these values and beliefs as: 1) the belief that education makes a difference in a person's life; 2) the belief that handicapped children can profit from an education appropriate to their capacities; 3) the belief in equity; that is, in equal educational opportunity; 4) the belief in the value of an education for all people—the universality of education; 5) the belief that governmental benefits should not be parcelled out on the basis of unalterable characteristics of the recipients; 6) the belief in the essential sameness of all persons; and 7) the belief that people should treat each other fairly and decently and that government should deal fairly and decently with the governed.

Beliefs and values are very important to identify and articulate because once we acknowledge them, we must hold ourselves accountable for carrying them out. However, as times change and science and technology develop, we are constantly challenged with new situations that will require new interpretations and applications of our beliefs and

values. Differences have recently arisen in the interpretation of these basic values and beliefs as they apply to the education of severely handicapped individuals. One of the controversies is based around the assertion that ALL children are educable, regardless of the nature or severity of any handicapping condition (Kauffman, 1981). Some professionals seek to limit the scope of the law and question the appropriate parameters, purpose and definition of education as they apply to severely and profoundly handicapped students. Other professionals argue for a more literal interpretation of the law and uphold the belief that ALL children are indeed educable. These questions and interpretations have "generated a variety of responses—often passionate—that span education, philosophy, law, psychology and politics." (Orelove, Note 3). Professionals are now faced with the question of their own accountability and interpretation of those beliefs and values that motivated them to fight for the right to education of handicapped children.

The task of analyzing the issue of educability is not a simple one; it is a multi-dimensional one. The issue can be viewed from different perspectives. Orelove (Note 3) has examined the issue from three perspectives: legal, educational and social/philosophical. The following summary of the educability debate is based on Orelove's organization.

Legal

Inequalities have existed in the opportunity for handicapped children to participate in the educational process. From a legal perspective, the question becomes, "Do all children have a right to an education?" The equal protection clause of the Fourteenth Amendment of the U.S. Constitution provides that no state may deny to any person within its jurisdiction the equal protection of the laws (Turnbull & Turnbull, 1978). Two tests that have frequently been used to examine equal protection cases as they relate to education are the rational basis test and the strict scrutiny test. Noonan, Brown, Mulligan, & Rettig (1982) describe the positions taken by the opponents and the proponents of educability within each of the judicial review forms. The following is a summary of their analysis.

Rational Basis. The rationale basis test places the burden of proof on the party opposing the classification. The opposing party must show that the state has acted arbitrarily in designating severely handicapped persons as ineducable. If it can be demonstrated that the state has acted arbitrarily, rather than rationally, in defining severely handicapped persons as ineducable, an equal protection claim may be justified. Opponents of universal educability assert three arguments to demonstrate that exclusion of the severely handicapped is not arbitrary. These are: 1) that profoundly handicapped would fail to benefit significantly from instruction, 2) that professionals do not have sufficient skills to educate this population, and 3) that our technology is not developed enough to adequately teach the severely and profoundly handicapped population.

Proponents of educability claim that designating a segment of the handicapped population as a separate, ineducable class is arbitrary and irrational. In order for a state to create a class of ineducable children, they would have to demonstrate that skills or behaviors could not be learned. Baer (1981) states, "A child cannot be declared unteachable in fact until teaching has been tried and has failed; teaching is too large a set of procedures (even in its known world) to have been tried and to have failed in its entirety, within the lifetime of the child and the child's teachers" (p. 96–97).

Strict Scrutiny. The strict scrutiny test, a more stringent form of review, is applied when a fundamental right or suspect classification is involved. A fundamental right is a basic human right or a right guaranteed by the U.S. Constitution. A suspect class is a legal classification of persons who are politically powerless and have been historically discriminated against on the basis of unalterable traits. The strongest argument of the opponents of universal educability is that education is not guaranteed by the U.S. Constitution, and is, therefore, not a fundamental right. Proponents of educability for all handicapped persons have argued that education is *implicitly* guaranteed to all individuals under the federal Constitution because it is an important personal right and it is necessary to exercise other explicit fundamental rights (e.g., the right to free speech, the right to vote and the right to own property). In terms of the strict scrutiny test, opponents of educability of all handicapped persons assert that because severe handicaps render these persons so different, they are in fact, a separate class of persons. According to the proponents of educability, there has been unmistakable documentation of a history of unequal treatment of severely handicapped persons.

Educational

Orelove (Note 3) delineates three basic arguments used by the opponents of educability from the educational perspective. The first is that severely handicapped students cannot benefit significantly from an education; that is, they are incapable of learning a significant number of meaningful skills. Of course one must question how 'meaningful' is defined. The second argument is that there are limits to the application of operant technology and that we have "met our match" (Bailey, 1981) in applying operant technology to the profoundly handicapped. According to Orelove, the third argument set forth by opponents of educability is that there are some basic organic limits to learning. That is, there may be such severe physical and sensory impairments that learning is nearly impossible.

There are four basic premises asserted by proponents of universal educability (Orelove, Note 3). The first is that these students *can* benefit significantly from education. There has been documentation of severely handicapped students acquiring skills in all areas of development. The second argument is in response to the opponents' view that there is a limit to our technology. The proponents feel that operant technology is still largely unexplored and that it would be premature to call some children ineducable because of this. The final argument described by Orelove is that it is unfair to label children as ineducable if the services they receive have been largely inappropriate. These inappropriate services include inadequately trained personnel, training of nonfunctional and irrelevant skills, infrequent, and non-systematic programming, and inappropriate assessment methods (Marshall & Marks, 1981; Miller, Note 4).

Social Philosophical

Orelove has identified three social/philosophical arguments given by the opponents of universal educability. The first is that it is unethical to prolong failure in the absence of significant behavioral gains and that continued fruitless attempts at education may constitute harassment and abuse (Bailey, 1981; Ellis, 1979). The second argument questions the economic feasibility of educating the severely and profoundly handicapped and whether small behavioral changes are worth large expenditures relative to the

needs of other less handicapped or non-handicapped individuals. Orelove terms the final argument as "false optimism," that, educability may be just a social movement or "cult" (Kauffman & Krouse, 1981) and that the current trend towards educating all children, regardless of handicaps, is based on misguided faith (Ellis, 1979; Kauffman & Krouse, 1981).

Five social/philosophical arguments for the educability of all handicapped people have been set forth in response to the opposing views: 1) even unsuccessful programs are reinforcing to the student, 2) trying to prove, without a doubt, that a child is ineducable, would be economically unfeasible (Baer, 1981), 3) abuse can occur when the decision to stop or continued education rests in the hands of a few (Marshall & Marks, 1981), 4) terminating education of profoundly retarded persons may result in a return to custodial and institutionalized care (Roos, 1979), and 5) proceeding as if all children are capable of learning is good policy because it benefits individual children and it improves our knowledge about teaching (Baer, 1981).

The arguments set forth under each of the perspectives can be bantered around; semantics and rhetoric can be skillfully used to uphold or deny any given argument. Professionals must step aside from this rhetoric and reflect on their own basic values and beliefs. Professionals must ask themselves several questions: 1) Is their stand on this issue reflective of their basic values and beliefs about the rights of all persons? 2) What are the implications of their stand, for both handicapped and non-handicapped people? 3) Can one put qualifications, or restrictions, on values and beliefs?

Normalized Settings and the Severely Handicapped

Another area of controversy is that of the right of the severely handicapped to normalized settings for living, schooling, working and playing. While support for the right is found in legislation and litigation, it is a right which is far from being achieved. Obstacles exist preventing the severely handicapped individuals from pursuing more normalized life patterns.

Residential Domain

A variety of obstacles have prevented a more rapid change to community based and more normalized living arrangements for the severely handicapped. These stem from concerns regarding what is best for individuals, society and parents.

Obstacles. Concerns regarding what is best for the severely handicapped individual serves as an obstacle preventing more normalized living arrangements. Institutions were initially perceived by some as being developed for the purposes of protecting the handicapped from society. The perpetuation of this attitude accounts, in part, for the continuation of segregated institutional settings and resistance to deinstitutionalization, that is, the return of residents to more normalized, community based settings. Some are concerned that there may be greater risks to the retarded in community facilities and are unwilling to accept those potential risks as a trade off for increased freedom (Roos, 1980).

Another justification presented by some for the continuance of segregated residential programs is based on the "hedonistic model" (Roos, 1980). According to this model, the primary reason for "programming" for the mentally retarded is to make them happy and content. Proponents of this model believe that this can only be accomplished in segregated residential settings where the severely handicapped can be accepted for what they are. In the community, they would probably not be accepted and would be subject to ridicule.

Economic reasons also continue to prevent more rapid deinstitutionalization. Roos (1980) includes the following:

—large capital investments (building/grounds) which would go unused.
—cost benefit ratios of community based program vs. institutions are not yet clear.
—funding bases which currently exist favor institutional options.
—generic services (dentist, doctors) are more difficult to access in community settings.
—for the severely and profoundly handicapped, clustering may be necessary to assure the delivery of essential services.
—management of decentralized programs is more difficult than traditional centralized programs.

Some feel local, state and federal governments must be responsible to the staffs of residential facilities. Elimination of institutions would mean a reduction in positions or retraining of the staff for other positions (Roos, 1980).

Many parents would welcome alternatives to institutional care. However, for parents to feel secure with community based residential options for their children, 1) such options must exist, 2) parents must feel confident that they will continue to exist, and 3) generic services, such as dental and medical, etc. must be available in the community. For many of the previously mentioned, and many others delineated, this security has not regularly been provided. Without this assurance there is a hesitancy on the part of many parents to use alternatives to institutions.

Progress and Trends. There has been a steady overall decrease in the number of people in institutions in the past 10 years (Scheerenberg, 1982). Support for this movement has come from such people as Judge Broderick who ruled in the Halderman vs. Pennhurst State School and Hospital Case (446F. Supp. 12951 E.D. Pa. 1977). In his ruling he said:

> Pennhurst as an institution for the retarded is a monumental example of unconstitutionality with respect to the habilitation of the retarded. As such it must be expeditiously replaced with appropriate community based mental retardation programs and facilities designed to meet the individual needs of each class member. (Halderman v. Pennhurst State School and Hospital, et. al., 1978)

Judges in other states have ruled similarly (Gilhool, 1980).

Other rulings have specified that institutions should be considered only after the institution has been determined to be the least restrictive setting in which habitation can be realized and this should be utilized only after all community options are ruled out as inappropriate (Wyatt v. Stickney, 1972).

There has been an increase in the number of types of community residential facilities (Heal, Novack, Sigelman, & Switzky, 1980). Some of these used for the severely hand-

icapped have included foster homes, group homes, community intermediate care facilities and nursing homes. Research indicates that the past five years have shown marked increases in the use of group homes and intermediate care facilities as well as into other residential facilities. Placements into nursing homes, however, have decreased (Scheerenberger, 1982).

The trend has been and will continue to move in the direction of deinstitutionalization. The number of admissions and readmissions to institutions have been substantially reduced (Scheerenberger, 1982). New community based programs continue to emerge. The challenge for the future includes determining ways to overcome the attitudinal, economic and legal obstacles. It appears, however, that the movement will continue foward—as long as advocates continue to speak for severely and profoundly retarded individuals.

Educational Domain

Obstacles. Many of the same obstacles impeding the progress and development of more normal residential life patterns for the severely handicapped exist in the educational domain as well. Certain attitudes of educators (both regular and special), administrators, and parents of handicapped and non-handicapped, can stand in the way of educating severely handicapped students in less restrictive environments. Some individuals are primarily concerned with the social and emotional consequences of both handicapped and non-handicapped students involved in the educational integration effort. One belief is that integrated educational settings might subject the handicapped student to ridicule and social isolation, thus functionally further segregating them (Burton & Hirshoren, 1979). Others feel that the severely handicapped student would be better off "with his own kind." In addition to these perceived negative effects on the handicapped student, some fear that the integration efforts could be emotionally upsetting to the non-handicapped student as well.

Another obstacle to the educational integration of severely handicapped and non-handicapped students is the belief that it is educationally non-beneficial for both groups of students. That is, the severely handicapped student is not able to benefit from an education, and that the presence of these handicapped students will in some way affect the quality of the non-handicapped child's education (Burton & Hirshoren, 1979). It has also been suggested that a more centralized educational setting for severely handicapped students is a more cost efficient delivery system. That is, it is not cost effective to have the many ancillary service personnel necessary for appropriate services travel from school to school to deliver their services (Brown, Branston, Hamre-Nietupski, Johnson, Wilcox, & Gruenewald, 1979).

Architectural barriers have also been a major obstacle to the educational integration of severely handicapped students into non-handicapped schools. Many school buildings remain inaccessible to students and professionals with physical or sensory handicaps. Some public school administrators view the costs involved in providing compensatory structures to make the building barrier-free (e.g., ramps, brailled signs, wide doors, accessible bathrooms and drinking fountains) as excessive and unwarranted. Related to this is the fear of some parents that less restrictive environments present greater physical risk or danger to their child.

Progress and Trends. Severely handicapped students are now being extensively integrated into regular school programs (Stainback & Stainback, 1981). Integration does not only mean physically placing the student in a public school building with non-handicapped students. Integration also requires handicapped students to be provided with opportunities for meaningful interaction with non-handicapped peers, and with an educational program that reflects certain philosophies (Kenowitz, Zweibel, & Edgar, 1978).

Severely handicapped students are now riding school buses, attending assembly programs, eating lunch, and participating in art, music and recess with their non-handicapped peers (Stainback & Stainback, 1981). Several studies have indicated very positive effects of these increased interactions on both handicapped and non-handicapped students. Time spent with severely handicapped students seems to increase the non-handicapped students' positive attitudes and understanding of the severely handicapped student (McHale & Simeonsson, 1981; Voeltz, 1980). Additionally, research indicates that interaction with non-handicapped students may result in a decrease in some inappropriate behaviors of the severely handicapped student (Guralnick, 1981) and may also facilitate learning (Egel, Richman, & Koegel, 1981; Fredericks, Baldwin, Grove, Moore, Riggs, & Lyons, 1978). Stainback and Stainback (1981), in an extensive review of the literature on severely handicapped and non-handicapped interaction, state that there has not been any detrimental findings reported thus far for either handicapped or non-handicapped individuals.

The curriculum being designed for severely handicapped students is now reflecting the need to prepare students to live, work, and play in non-handicapped settings. The "criterion of ultimate functioning" (Brown, et. al., 1976) should be used to evaluate the meaningfulness of goals and activities to insure that the skills relate to the environments and situations that the student will be expected to participate in. More and more, instructional strategies are approximating those used in less restrictive classroom environments. Researchers are beginning to investigate just how flexible and "natural" our strategies can be without giving up our teaching effectiveness.

Although some resistance to integration is still evident, this must not be used as an excuse to perpetuate segregation. Social understanding and acceptance can only be realized by active efforts at integration; as the next generation is exposed to severely handicapped students in natural settings (e.g., school, community) the severely handicapped person will become a natural and accepted part of the school and community.

Vocational Domain

Obstacles. Attitudes of educators, vocational agencies, and employers have all served as obstacles to the integration of the severely handicapped into vocational settings. Educators, historically, have not considered the severely handicapped as capable of acquiring the complex skills necessary for even sheltered workshop employment. If training was provided in the school setting, the training rarely met the usual work requirements of post-school environments (Pumpian, Baumgart, Shiraga, Ford, Nisbert, Loomis and Brown, Note 5). Also missing from the curriculum was the training in skills related to work adjustment: punctuality, hygiene, worker interactions, completions of jobs, etc.

Vocational rehabilitation agencies have had a history of excluding the severely handicapped from their programs. Because the program emphases were on eventual remunerative employment of clients, individuals with clear potential were given the highest priority, the severely handicapped whose potential for employment was uncertain, were often excluded (Bellamy, Horner, and Inman, 1979).

Shelter workshops have as their goal, the training and employment of disabled individuals in a sheltered or supervised environment. Severely handicapped individuals have often been excluded from such programs. They were often considered not able to meet the requirements of even sheltered employment. And even for the more moderately retarded who have been employed in the sheltered environments, their success in obtaining competitive employment has been limited (Bellamy, et. al., 1979). While the goal of sheltered workshops is to enable individuals to seek competitive employment, rarely is appropriate training provided.

Employers, too, have served as obstacles in the employment of the severely handicapped. They have not been convinced that such individuals can be successfully employed. Unfortunately, many professionals working with the severely handicapped have shared this view.

Progress and Trends. Progress has been made in the area of vocational training and employment of the severely handicapped. Much of the improvement can be traced to the research efforts of such people as Gold and Bellamy who have clearly demonstrated the abilities of severely handicapped individuals to acquire a number of vocational skills (Gold, 1972; Bellamy, Peterson & Close, 1975). Evidence has lead to the inclusion of vocational training as a part of many educational programs for the severely handicapped.

The Rehabilitation Act of 1973 has also had an impact on the vocational training of the severely handicapped. The Act, often referred to as a civil rights act for the handicapped, prohibits discrimination of the individuals on the basis of handicap. It also requires that priority in vocational training be given to the severely handicapped who are capable of employment.

The evidence of the effect of these factors can be seen in: 1) an increase in the number of professionals trained in this area; 2) an increase in the number of severely handicapped individuals who receive vocational services; and 3) federal and state support of research and demonstration programs which have as their goal the increase in understanding of the abilities of the severely handicapped as related to employment (Wehman & McLaughlin, 1980).

The trend for the future will include the increase in vocational training for the severely handicapped in the schools. In contrast with the past, vocational training will become an integral component of the school program. Training will not be put off until the last few years of schooling but will become a component from the first years of education. It is anticipated that we will see the changes that are indicated by Pumpian et. al. (Note 5) as being needed: A change to the attitude 1) that severely handicapped are entitled to vocational training; 2) that successful work is a function of not just ability to do the specific job but also a function of appearance, punctuality, and ability to get at the job: 3) that students should be provided with training which will enable them to participate in a number of different employment opportunities; and 4) that opportunities for em-

ployment in non-sheltered environments are a function of careful work with employers and longitudinal interactions of the severely handicapped with the non-handicapped public.

Recreational Domain

Obstacles. In the past the opportunities for recreation in the community were non-existent. Severely handicapped individuals lived in residential institutions which were carefully isolated from the rest of the community in which they were located. Since the goal of institutionalization was protection of the individual from society and/or vica versa, utilization of the community would have been contradictory to this goal.

By the very nature of institutions residents had, and continue to have, considerable amounts of free time. This spare time, however, was synonymous with time in the "day room." A day room can be characterized as a large room with chairs and a television mounted high up in a corner of the room. Institutional staff were traditionally concerned in these types of settings with the safety of the residents and in the control of behavior problems, e.g., aggressive behavior, self-injurious behavior, self-stimulatory behavior. Treatment of the severely handicapped, therefore, emphasized reduction of the aggressive or injurious behaviors; the development of more appropriate behavior or the decrease of isolative behavior was not emphasized. Without instruction on more meaningful activities and without the opportunity to observe others engaging in appropriate social and recreational activities, the reduction of problem behaviors was fruitless and the development of appropriate skills was impossible. This reliance on the reduction of inappropriate behavior unfortunately still continues in some classrooms when teachers assume that reduction of certain behaviors is prerequisite to the development of more appropriate forms of behavior, including appropriate leisure time skills.

In some school classrooms, initial attempts at leisure time skill training were designed to have a dual purpose: to improve motor coordination and provide the individual with a leisure time activity. The choice of activities then became isolative and non-functional (e.g., puzzles, shape sorting and pegboard work). While some may argue in defense of puzzles as an appropriate leisure time activity chosen by many non-handicapped adults, the accomplishment of skills related to this activity do not relate to those needed for community based recreational activities; no opportunities are provided to learn to interact with others through such an activity. Neither shape sorting nor pegboard work have normal adult parallels which could justify their inclusion in a leisure time training program.

An additional obstacle to the development of more normalized community based recreational skills has been the existence of programs specifically designed for handicapped individuals. Handicapped camp, handicapped bowling, handicapped swimming, handicapped arts and crafts, all happen in a specially arranged time period. Some may occur in a separate facility, such as a pool specifically built for use for the handicapped. While such accommodations do enable the development of leisure skills, they do not provide the opportunity of handicapped individuals to learn to interact with non-handicapped individuals. Consequently, severely handicapped individuals will remain unprepared to participate, side by side, in leisure activities with non-handicapped peers.

Progress and Trends. While some improvements have been seen in the development of leisure skills, past efforts fell short of enabling the severely handicapped to use leisure skills in the community. With the return of the severely handicapped to the community and the inclusion of the severely handicapped into educational programs, we are now seeing an increase in the concern about what individuals with severe handicaps will be in their "free" time. It is recognized that aimless wandering (Nietupski & Svoboda, 1982) and self-stimulation behaviors, characteristic of individuals institutionalized for many years, are not acceptable in the community. It has become imperative that more socially acceptable behavior be developed.

The development of recreational skills should be based on three goals: 1) to teach students social and recreational skills that will facilitate and maintain integration into less restrictive environments; 2) to improve the quantity and quality of community experiences; and 3) to increase the pleasure the severely handicapped student receives from and gives to the community. These goals suggest new directions that must be taken in programming for the recreation/leisure time needs of the severely handicapped. Goals for instruction must include not only the reduction of inappropriate behaviors that interfere with appropriate interaction with the environment, but the development of adaptive social behavior. (Williams, Hamre-Nietupski, Pumpian, McDaniel-Marx, & Wheeler, 1979). Teachers are being encouraged to no longer assume that maladaptive behaviors must be decreased before more appropriate behaviors can be established. It is recognized that appropriate behaviors can be established. It is recognized that appropriate leisure skills will not spontaneously unfold with a decrease in inappropriate behavior; they must be systematically established. Appropriate social and recreational skills must be developed if the reduction in inappropriate behavior is to be maintained. Once students learn some basic social skills and begin engaging in social interaction, naturally occurring contingencies may assist in the maintenance of these skills in less restrictive environments.

It is also recognized that unless the social and recreational goals and objectives reflect those activities engaged in by the students' chronological-aged peers, it is unlikely that they will facilitate integration and interaction with others. In fact, a severely handicapped student engaging in very age-inappropriate leisure activities might further isolate him/herself from peers and present a more "deviant" image. For example, teaching a 15 year old boy to appropriately interact with a rattle is not likely to facilitate his interacting with a less handicapped peer or a non-handicapped peer of the same age, or his gaining access to and being able to meaningfully participate in community facilities.

The ultimate goal of any leisure education program should be to facilitate self-initiated independent use of leisure time with chronologically age-appropriate recreational activities (Wehman & Schleier, 1981). Although the range or extent of the independence attained will greatly vary between students, one must always work towards self-initiated skills that are appropriate in non-handicapped settings. Although one might start up with rudimentary forms of object manipulation, this can be done with a radio instead of a rattle. Additionally, one does not want the student to manipulate the radio only when we give an instruction to do so; rather the student should independently initiate the activity and be able to sustain and terminate the activity at the appropriate time (Williams, et. al., 1978).

The selection of goals and objectives should reflect the activities of peers chronologically-aged in the community. It naturally follows that the development and practice of these skills should reflect the settings and context of peers and the community. In the classroom this means that students should be provided with instruction in recreational activities with each other. For example "conversations" skills and board games should be taught by having two or more students learning these activities together. These students must become active participants in recreational activities, not passive recipients of teacher instruction. Within the school building, instruction and interaction with less handicapped and non-handicapped peers should include settings such as the playground, the library and cafeteria. In the community, the student should practice his/her conversation skills, math skills and motor skills at the zoo, in a restaurant, and at the bowling alley.

In summary, social and leisure curriculum must work toward providing the student with skills that will enable him to more meaningfully interact with and participate in less restrictive environments to the greatest extent possible. Access to less restrictive environments and non-handicapped peers are integral for the attainment of meaningful social and recreational skills.

Summary

The question as to whether others always act in the best interest of the child. The courts have been accused of being biased against the handicapped (Stein, 1982; Biklen, 1981). The same accusation has been made against parents and physicians (Affleck, 1980).

The severely and profoundly handicapped are the group most seriously impacted by advances in medical technology. Cohen (1981) points out the many organizations of advocates *for* euthanasia (American Euthanasia Foundation, Concern for Dying) and questions where the advocates *against* it are. A review of the literature in four major journals devoted to mental retardation revealed a very small number of articles addressing the issues of selective abortion and euthanasia (Brown, Note 6). None are on fetal therapy. The American Association on Mental Deficiency is one major professional organization that has taken a strong position against the termination of life, directly or through the withholding of treatment, on the basis of mental retardation. At the present time some members of The Association for the Severely Handicapped (TASH) are preparing a position paper declaring opposition to the withholding of treatment of individuals on the basis of a developmental disability (TASH, Note 7).

Opportunities for living, working, schooling, and playing in the community are limited. They are limited by both attitudes and the resources which exist. We have a long history of locking away the severely and profoundly handicapped "for their own good."—or is it for our own good? In a country in which appearances are so important it is very difficult for some to even look at severely handicapped children in integrated community settings. Many support the concept but prefer the community integration occur in someone else's community or someone else's school.

Attitudes supporting institutional placement on the basis of the good of the individual or for the good of society, can serve to block progress toward the development of more normalized settings for severely handicapped individuals. The question in need of an-

swering is whether the right to a normalized life style is a right of all, or if there are some people who are so abnormal that they would either not benefit from this life style or they do not have the right to participate in it.

The severely and profoundly handicapped are an extremely vulnerable group of individuals, particularly in these times of economic difficulties. The more prosperous 1960's and early 1970's saw a tremendous increase in services for the handicapped culminating in the passage of P.L. 94-142. In the economically recessed 1980's we are hearing questions about whether our limited education resources should be spent on individuals for whom little progress is expected. Others argue that financial considerations can not be an issue when equal protection under the law is being threatened. But the harsh reality is that the severely and profoundly handicapped can find themselves, in the future, being denied educational programs—again. Mandates through laws do not necessarily change beliefs and values. Should P.L. 94-142 or its regulations change, what beliefs and values will prevail? Normalized recreational, residential and vocational settings are not mandated. What beliefs and values guide in the development and operation of these programs?

The debate will continue. Since the severely handicapped are unable to speak for themselves, they will always be subject to the opinions of others. The questions of who has the right to decide and the reasons for the decision will continue to be raised.

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Perspectives on Early Childhood Education[1]

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Issues specific to the education of young mentally retarded children are largely similar to those that characterize early education of handicapped children generally. This chapter will focus on early childhood special education with particular attention given to the uniqueness of issues as they impact on mentally retarded children.

The first promise of education for young handicapped children appeared in 1964 when the Head Start Program was funded to serve disadvantaged preschoolers. In the ensuing 18 years, a number of important legislative acts continued and expanded that promise (e.g., Handicapped Children's Early Education Act, 1968; Education of Handicapped Amendments, P.L. 94-142, 1975). These legislated promises resulted from the concerted efforts of parents and professionals in advocating for public Special Education for children of all ages. Considerable impetus for early intervention also came from the growing body of research demonstrating the importance and the consistently positive outcomes of early remediation provided mildly mentally retarded children early childhood years to later growth and development.

Early childhood special education, perhaps more than other areas of education, has aligned closely with basic and applied research and with systematic demonstrations of the effectiveness of intervention throughout its relatively brief history. This tradition of applied research, demonstration and evaluation has its basis in three sources: a growing interest in child development in the fields of psychology and education, provision of funds for model and demonstration projects in early childhood education through

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the HCEEP program, and the continuing need to demonstrate the effectiveness of early intervention programs in order to secure funding from federal, state, and private agencies. Evaluation, research and service delivery have proven to be reasonably compatible bed fellows. While the data have shown most programs to be effective, the economics of the times have demanded further, more refined demonstrations and analyses of costs and benefits.

In discussing trends and issues in early childhood special education, research and service delivery must be addressed as interfacing issues. Important advances have been made in detecting and remediating many handicapping conditions. Successful demonstrations of programs serving young children and their families have been made. Yet, there is a continuing need for research on specific intervention techniques, for evaluation of individual components of programs, for the development of more efficient service delivery systems, and for careful documentation of long-term outcomes for mentally retarded children with varying diagnoses.

Two themes dominate the future: understanding and treating more complex aspects of early childhood handicaps, and delivering quality services to increasing numbers of children while relying on modest fiscal resources. The challenge for researchers, advocates, and teachers and other caregivers in early childhood special education has changed but not lessened. Early intervention programs exist yet the possibility of effective early intervention is not yet a reality for many children, either because adequate procedures have not been developed to remediate specific deficits or because the treatments known to be effective cannot be delivered to particular children. As the research base has expanded, the need for understanding the child as part of a larger social-ecological system has become even more apparent. The multiple problems accompanying specific handicaps pose a continuing challenge to intervention efforts. Our commitment to serving children as individuals with a variety of strengths and needs has proved to be correct but expensive. The absence of established systems for service delivery to preschool age children has hindered our efforts to serve the needs of large numbers of children. Funding for model programs has been and continues to be an important means of initiating new programs, but most communities struggle to provide even minimal services to their young children. Early intervention is a critical investment in the future of mentally retarded children but efforts to teach, to evaluate, and to seek better intervention strategies must continue if we are to realize the promise of early intervention.

In some ways, issues and problems in early childhood special education are similar to those in other areas of special education; in some important ways they are different. The need for more powerful intervention strategies and for efficient delivery of services is indigenous to the total field of Special Education. Differences arise from the age of the children to be served, the absence of established systems for serving very young children and their families, the view that early childhood services are a luxury which must be justified in times of limited economic resources, and the difficulties accompanying the transition of early childhood services into established service delivery systems. Because of the open-ended nature of legislation related to early childhood services, the circumstances and nature of services available to young children vary widely.

Four issues in early childhood special education are discussed in this paper. The discussion of these issues reflects the *two themes* suggested earlier: *the need for more sophisticated intervention strategies* and the *delivery of known interventions to a large number of*

children. Research and service delivery are treated as interfacing issues; the issues in early childhood special education are not discrete, but rather, are contiguous with each other.

In the first section, research and service to families are discussed. Section two considers the range of problems associated with delivery of services to young handicapped children. The final sections focus on issues in teaching and learning. Section three discusses the continuing need for research in basic teaching and learning processes. Section four considers the implications of technology for early childhood interventions.

Families: A Primary Focus In Early Intervention

One of the unique aspects of early intervention is the intense and necessary involvement of families in the assessment and educational processes. Early intervention is almost by definition intervention *in* the family, and *for* the family, as well as for the child. During the last 10 years, there has been a shift from focusing exclusively on the child, to working with the child in the context of the family, and finally, to beginning to consider the family as a unit including the handicapped child (Hobbs, 1980). A variety of roles for parents have emerged: parents as trainers of their children, parents as partners in educational decision making, parents as advocates, and parents as people in need of support to fulfill the usual and unusual functions of parenting a child who is handicapped (Linder, 1982).

Two overriding issues will guide research and interventions with families of handicapped children during the coming years. First, we must gain a broader understanding of individual differences in family needs and coping strategies if we are to provide optimal services for families and children. Second, we must address the needs and strengths of families as they change over time. The philosophy of individual differences which has been the hallmark of our interventions with young children (Horowitz, 1978) must be systematically extended to our work with families. We must address our research to the real needs of families and expand our support and training strategies to meet these needs more effectively.

Families serve a variety of functions, including executive or external resource management functions and internal or mediating functions (Newbrough, Berger, Greentree, McMillan, Simpkins, Smith, Smith, and Wuescher, 1973). Executive functions include arranging for education, dealing with social service agencies, procuring physical care (physicians, specialists, and so forth), meeting daily living needs (grocery shopping, paying bills), and a myriad of other direct and indirect interactions with the social community. Every family, regardless of the developmental status of its children, engages in these executive functions. Typically, one or both parents manage time and resources to meet basic family needs through interactions with others in the community. When the child is handicapped, the number of these executive functions, their frequency, and their duration are likely to change (Richards & McIntosh, 1973; Simeonsson & Simeonsson, 1981).

The mediational functions of a family may also increase when the child has a handicapping condition (Shere & Kassenbaum, 1966; Paul & Beckman-Bell, 1981). Every family mediates information for young children, engages in teaching children about the world, assists children in learning concepts and everyday living skills, and provides emotional

support for children. When the child is handicapped, needs for mediation of information and support increase. For handicapped children to realize their full potential, their parents must be skilled and persistent mediators (Heward, Dardig, and Rossett, 1979).

All family members are affected by changes in the executive and mediational functions of the unit. Although parents may be primarily responsible for the actual execution of those functions, children's interactions with their parents, with each other, and with their handicapped sibling are also affected. Many resources (time, energy, money) must be directed toward fulfilling increased demands on the family (Turnbull, 1982). Parents' interactions with each other, with their friends and extended family must shift to accommodate the increased time and energy demanded to fulfill the basic family functions. The on-going needs for affection, support, recognition, and personal growth may not be met adequately when the primary needs for physical care and education increase radically.

How families manage these increased demands on the family system is a question worthy of systematic investigation. Preliminary data (Turnbull, 1982) suggests that families have a variety of copying strategies, reflecting family members' personalities, beliefs, history, and the family's composition. Research describing individual families strategies is needed as a basis for improving support to families. At least two lines of investigation should be pursued: 1) descriptive analyses of the demands on families with handicapped children including behavioral records of the tasks and time needed to fulfill executive mediational functions; 2) further analyses of how families successfully manage their daily activities and their lives over a period of years; and 3) experimental studies focusing on teaching families new strategies to accomplish the functions they deem to be important in their daily interactions (Pinkston, Levitt, Green, Linsk & Rzepnicki, 1982). We must first document what families must do in their daily lives, then ask families to indicate what they consider critical, and finally, work toward providing effective assistance when it is needed to help families meet their individual goals. Implicitly, changes in family needs and priorities corresponding to changes in the child's age, skill, or physical condition and the family's composition, needs and expectations must be a part of research and planning for services. For services to families to correspond to *actual*, as opposed to professionally-perceived needs of families, we must expand our technology for assessment.

Accurately assessing family needs may require the development of better interview procedures (Pinkston, et al., 1982) and instruments, but efficient, minimally intrusive observational strategies are also needed. Descriptions of family functions and interaction patterns is a necessary basis for validating the support options we offer families during needs assessment.

We must begin to consider the short and *long term* concerns of families, recognizing that parent involvement and support over the period of the child's life is a more judicious goal than total involvement during the preschool years (Pinkston, et al., 1982). Considering the short term problems of the family translates into balancing demand and support, recognizing that momentary demands on a family (illness, special holidays, other children's needs) may periodically reduce parent participation in their handicapped child's programming and may increase the families' needs for social support. The life cycle crises of the child (transitions, death of a grandparent, moving) and of the family will also affect family needs and participation. Family support and family training are additions to an already rich tapestry of everyday life of family. These additions must

be balanced with the existing elements if the fabric is to remain strong and durable over a long period of years.

A great deal has been written about parent and handicapped child interaction, mostly focusing on mothers and their handicapped children (Rondal, 1978; Tyler and Kogan, 1977). The contributions and needs of fathers and siblings deserve attention (Turnbull, 1976), and we must expand our support strategies to include these family members. Since it is unlikely that we can meet the full range of needs of fathers (Meyer, Vadasy, Fewell, and Schell, 1982), siblings, and other family members by simply extending existing service models, we must develop alternatives to fit their specific roles and time demands.

We must reconsider the parent-as-teacher role in families. All parents are teachers, but perhaps too often we expect and encourage parents of handicapped children to play a *primary* role in teaching new skills to their young children. When a parent becomes a primary teacher of a handicapped child, what other functions are performed less effectively? In particular, how do the interaction patterns of parent and child change to accommodate increased emphasis on the teaching function? Most parents benefit from being trained to more effectively manage their children (c.f. Embry, 1980; Kozloff, 1979) and to teach children in the context of everyday activities (MacDonald, in press), but systematic evaluation of both the positive and less desirable effects of parent-as-teacher is needed. Teaching must be reviewed in the context of the family system, with its strengths and needs. It is likely that the appropriateness of training parents to teach their children depends on the family situation, the family's skills, the children's needs, the time and resources available for teaching and other activities, and the existing patterns of family interaction.

We must improve the immediate efficiency and generalized effectiveness of our procedures to train parents. When we train, we must do it quickly and correctly in order to help the family maintain balance in their daily lives. Considerable technology for solving specific behavior problems and teaching children new skills already exists (c.f. Koegel, Rincover and Engel, 1972); the challenge is to develop better strategies for teaching parents to apply those procedures in ways that produce long term gains for parents and children.

Training parents to be teachers is not the only means of improving family functions and supporting the development of the handicapped child. There are a range of alternatives and each alternative deserves further development and refinement. Among the possibilities are: refining strategies for counseling parents to solve problems, to gain greater understanding of their situation and needs, to deal with crises; assisting parents in fulfilling the executive functions of family life more efficiently; developing additional strategies for promoting effective long-term advocacy; provision of information better suited to parents' particular needs and educational backgrounds (Winston and Turnbull, 1982); developing strategies to support handicapped or resource-limited parents; developing models of preschool parent-support which encourage continued parent participation during the school years; developing strategies for helping families manage the practical tasks associated with living with handicapped children including safety, environmental adaptations, and establishing respite care arrangements (Simeonsson & Simeonsson, 1981); and finally, supporting family members in meeting their personal needs.

This rather lengthy list suggests that a rethinking of the means by which we provide services to families is needed. Two alternatives might be considered. The first (previously suggested by Anastasiow, 1981) is the development of family centers where a variety of child and family needs might be served in the same facility. The second is the development of community networks consisting of agencies and persons who might provide services related to one or more types of family need. No single educational or intervention agency can possibly address all the needs of parents; referrals to other agencies are often ineffective. Interagency networks of mental health and educational professionals might work together to realize the potential of family support in a community (Elder & Magrab, 1980).

Finally, the future family services might include a new focus: preventing and managing handicapping conditions by educating young people about the causes and detection of handicapping conditions (de Lissovoy, 1973). Primary prevention must be stressed in high schools and junior high schools. The number of very young mothers is increasing (Eddinger & Forbush, 1977) and with this increase has come a rising number of high-risk children. Educating teenagers about the potential risks of infants conceived in teenage pregnancies, about the normal course of child development, about meeting infants' health and nutrition needs, and about the resources for evaluating very young children in the community is an important task for professionals in early childhood special education (Anastasiow, Stawhun, O'Shaughnessy, Eggleston & Eklund, 1978). Educating teenagers about developmental disabilities may inadvertently increase acceptance of handicapped persons in secondary schools and society. Both outcomes merit our efforts.

In sum, the tasks and challenges in working with families of handicapping children are myriad. We must balance our support for and expectation of families. We can begin to do so by working to understand the multiple and changing functions of families and providing support according to families' particular needs and resources. We must refine our interventions to make them effective and we must provide them in the true context of the family as a unit, including siblings and fathers as well as mothers. We must maintain the focus on individuality which has dominated our treatment of children. To accomplish these goals will require re-evaluation of our service delivery and research models. Yet, the challenge seems exactly matched by the potential benefits of supporting families and children.

Service Delivery: The New Challenges

Although it is difficult to pinpoint the exact number of preschool-age mentally retarded and/or handicapped children in this country (estimates range from 3% (460,000) to 17% (1.8 million) of children birth through five depending on definition of "handicapping" and population base used to derive numbers; Garland, Stone, Swanson, & Woodruff, 1980; Linder, 1982), there are indications that the number of identified handicapped children is increasing. This increase is a result of three factors: a rise in the birthrate; more effective efforts to find handicapped children before they enter public school; and medical interventions that have increased the survival rate among handicapped infants (Hayden & Beck, 1982).

Although advances have been made in treating young handicapped children, the demands for services have increased dramatically. We now must face the real challenge of the

1980's: doing more, for more children, with fewer resources. We must apply what we know, expand our knowledge base, maintain the standards of commitment and humane concern which have typified this movement, *and* do all this in ways that are cost-effective. The path to more effective, cost-efficient service provision is not always a clear one.

There are several specific problems that must be addressed:

1. Closing some of the gaps between the educational treatments that are possible and those which are typically provided;
2. Establishing standards for early childhood personnel and programs that more fully reflect the needs of children and families, as well as the resources available;
3. Improving program evaluation strategies and using the information acquired in program evaluation to streamline service delivery, and
4. Continuing to advocate at state and national levels for comprehensive preschool intervention.

Two major kinds of gaps between what is possible and what is currently happening in early childhood special education concern (1) differences between model and regular programs and (2) the gap between our knowledge of what to do and our implementation of services in early childhood special education. The first concerns model programs. Geographic characteristics, population distribution, and relative distribution of resources have shaped the quality of educational services at all levels in this country. The range of options and quality of services varies widely from university and medical center model programs settings to rural areas with few specialized programs. In early childhood special education, the inequities in service delivery are even more dramatic than those found in school-aged special education because the enabling legislation left the designation of populations to be served to the discretion of the states (P.L. 94-142, 1975, Section 612(2)(B)). For children under the age of 3, services vary most widely (Hayden, 1979). Further, because much preschool intervention is not provided through school districts, there are fewer means of regulating services or directly supervising staff in early childhood settings. Many preschool intervention programs are well-staffed, carefully administered, and deliver a high quality of services, but there are many other programs that meet none of these criteria. One of the real challenges for the coming decade will be closing the gap between the quality of educational services provided in model settings and the services provided in typical settings. To a large extent, the measure of success of preschool special education will be its quality in small towns, in rural areas, and in inner cities. Work on developing alternative services delivery models must focus on the provision of equitable services using alternative resources in areas where small numbers of children with widely diverse needs must be served.

A second gap in service delivery is more subtle: the gap between what personnel in a setting know how to do and what they actually deliver to young children. One example of that gap is seen in the individualization of educational plans for young children. Although we are publicly supportive of this approach to education, too often the actual planning for children is based on a formula that is narrowly applied to every child in the center (Meyen, 1982). The drift into "standard operating procedures" is understandable. Too often, there are too many children to be served and too few personnel to provide carefully individualized services. Alternatives such as streamlining indivi-

dualization through the use of technology, minimizing unnecessary paper work, and setting priorities for service delivery to each child must be explored.

Another example of the gap in individualization of services is in choosing the least restrictive environment for a preschool handicapped child. Decisions on least restrictiveness must be considered from the viewpoint of the individual (Meyen, 1982). What is restrictive for one preschool child may not be for another child with different needs and skills. We know that mainstreaming can provide opportunities for academic and social learning (Guralnick, 1978), but we must determine what the particular gains for a given child may be in a mainstreamed setting and what may be lost by placing the child in that setting. Mainstreaming must be planned to include procedures that maximize learning and social interaction with peers (Rogers-Warren, Ruggles, Peterson, and Cooper, 1981). Individual needs for intensive services must be balanced with the gains anticipated from peer interaction (Peterson, 1982).

The second major priority we must address is training early childhood special education personnel and defining standards for personnel and centers. Young handicapped children are a heterogeneous group. It is a rare situation in which an early childhood special education teacher does not work with a range of handicapped children as well as with parents, paraprofessionals, other specialists, and volunteers. Early Childhood Special Education (ECSE) personnel, even when trained in a specific area such as speech and language or occupational therapy, play a variety of roles and work with a range of children. The noncategorical, transdisciplinary approach (Allen, Holm, & Schiefelbusch, 1978) to young handicapped children, with its many strengths, demands that ECSE personnel are exceptionally well-trained and provided with many opportunities to increase their skills.

Recently INTERACT, a consortium of infant programs affiliated with the Handicapped Children's Early Education Program (HCEEP), has compiled a set of teacher competencies for ECSE personnel (Zeitlin, du Verglas, & Wendhover, 1982). This effort to establish national guidelines is applauded. The guidelines are based on competencies established in model programs and university demonstration schools. Standards for programs, as well as for personnel must be established. Maintaining a transdisciplinary, expertise-sharing model in early intervention programs is important but it is also time to establish specific training programs to prepare professionals to work with infants, with families, and with children who have specific handicapping conditions (e.g., deaf-blind infants who may require special expertise). The need for quality intervention programs for children between 0 and 3 and well-trained personnel to staff them is especially pressing (Ramey, Trohanis & Hostler, 1982).

Concerning the third major issue, program evaluation strategies, two types of research are needed. First, there is a continuing need for longitudinal evaluations of the effect of specific interventions on children with identified handicaps. Studies of long term effects of preschool intervention on high-risk children (Lazar & Darlington, 1982) have been an important model for this research. However, studies with moderately to severely impaired children are few (Karnes, Zehrback & Teska, 1974; and Hayden & McGuiness, 1977 are notable exceptions). The problems and potential outcomes for more severely impaired children are significantly different from those of high-risk and mildly handicapped children such that a longitudinal type of study would be an extremely valuable addition to data on the effects of early intervention (Hayden, 1979).

Scientifically sound program evaluation studies of specific programs are also needed. The efforts in program evaluation prompted by the standards of HCEEP projects are admirable, but there are few well-designed evaluations showing clear analyses of individual program components. The problems of conducting such studies are numerous: small numbers of children, heterogeneous population, inappropriateness of many standard test measures, varying treatment models, and so forth. Yet the need to do such studies must motivate the design of new evaluation approaches which combine testing data with individual progress profiles (Brooks-Gunn & Lewis, 1982). Because implementation of large-scale longitudinal studies on the long term effects of intervention are unlikely given the current funding base, smaller evaluation and research studies must suffice. We must emphasize the development of tighter program evaluation models as well as invest in experimental studies of specific intervention strategies (Dunst, 1979).

In order to develop early intervention systems that work more efficiently, we must know exactly what techniques work. We must consider the design of centers and programs that free teachers from an overload of management tasks so that they can teach children (Hart, 1982). Centers that are organized to maximize child contact time are likely to be cost-effective and child-centered. We must verify how much staff time and effort particular activities take, then set priorities, and plan to get those things accomplished which maximally benefit children in the program (Price & Goodman, 1980). The task of streamlining is necessarily based in more careful evaluation, assessment, and task analysis of staff behavior, as well as of child behavior.

It is important to know how much each aspect of a program costs and to document the individual and cumulative effects of program components. Cost analyses are possible even when cost-benefit analyses are not. Early childhood programs must become more accountable, because their future depends on their accounts of child progress, of parent satisfaction, and long-term outcomes.

The final major issue is the continuing need for active, positive participation in the legislative process at community, state, and federal levels. Many states have not yet passed a preschool education mandate for handicapped children. Other states serve only specific portions of the population or leave large exceptions which allow communities to refuse to provide services. Federal appropriations for a wide variety of agencies and programs affect preschool intervention programs. We, our clients, and colleagues must respond to legislative changes in appropriations and regulations related to special education. In light of the direct service needs described elsewhere in this chapter, the task of legislative monitoring seems overwhelming, and perhaps it is. Yet it is such an important aspect of the future, that we must take responsible action.

There are hard questions to be answered: Who will we serve if we cannot serve everyone? How will services be allocated? What is the impact of such decisions on the futures of mentally retarded children? The trend toward interagency coordination of service must continue because sharing facilities and personnel may be the only way that services can continue (Elder & Magrab, 1981). In turn, early childhood centers must become community resources, integrated into the overall educational and social services system. In many communities this effort has begun, it is likely to need further development and revision in the coming years (Martinson, 1982).

In sum, we have reached the second generation of service delivery problems. The problems are familiar ones, but with new complications. There will be more children,

We are likely to have less federal and state support than in the past. Yet, there are better techniques, more skilled personnel, and newly-formed alliances with community services to assist. The continuing challenge will be delivering our best services and demonstrating their effectiveness in the wide variety of community settings that are "typical" for early childhood.

Basic Research Issues in Teaching and Learning

The relationship between practice and research in early childhood special education has been, historically, a close one. This has allowed us to formulate interventions more knowledgeably while we concurrently explore issues in learning. This relationship has benefited both researchers and practitioners. Together we have marveled at the complexity of the child's linguistic, behavioral and social repertoires. We are impressed by both the durability and fragility of infants. Nevertheless, our knowledge concerning the manner in which children develop, the parameters of specific handicapping conditions, and the interrelation of all aspects of the child's behavior is an insufficient basis on which to build early childhood special education. We must continue to develop our teaching procedures based on analysis of handicapped childrens' learning. Descriptive research is important because it points to the naturally-occurring conditions under which children develop, and it describes the events that are necessary for children to develop normally. Nevertheless, descriptive studies do not tell us what is needed to teach handicapped children new skills. We must investigate specific teaching procedures.

The study of teaching is, in large measure, the study of learning. When we know how a child learns, we have a large part of the answer about how to teach that child the next steps. We have learned a great deal about learning in both normally-developing and in developmentally-delayed infants and children since the turn of the century. Nonetheless, we have of necessity in the past focused almost exclusively on the study of the initial acquisition of new skills. Researchers have only begun to address the next set of important issues: How can we ensure that newly-taught skills will generalize to new situations? How can we ensure that newly-taught skills will be maintained over time? How can we provide children with learning strategies so they can learn more quickly and more independently? How can we tailor teaching strategies to meet the needs of handicapped children? Regardless of one's theoretical perspective these issues are critical to the outcome of early intervention.

Concerning the first question, how to ensure that new skills will generalize to new situations, Stokes and Baer (1977) define generalization as . . . "the occurrence of relevant behavior under different, non-training conditions (i.e., across subjects, settings, people, behaviors, and/or time) without the scheduling of the same events in those conditions as had been scheduled in the training conditions." (p. 350). Thus, one might ask, as did Correa, Poulson, and Salzberg, (1982), whether congentially blind, severely/profoundly mentally retarded infants would generalize a reach-grasp response trained in the presence of a toy sound, to a reach-gasp response in the presence of an instruction to "get the toy". This would represent generalization across two different kinds of stimuli, from toy sounds to instructions. One might further want to ask (as did Correa, 1982) whether those same blind children would spontaneously begin to explore their environments by creeping out into new spacial locations, as predicted by Fraiberg (1977). This would represent generalization across two different responses, from reaching-grasping to creeping.

In the Correa, 1982 study, the severely multiply-handicapped infants generalized their reach-grasp responding from the toy sound to the instruction "get the toy" (showing generalization across stimuli). Nevertheless, they did not creep any further than usual following reach-grasp training (they did not show generalization across responses). Response generalization, in this case, would have to be programmed directly.

Further research on generalization from training can help us determine which factors in the teaching situation or in the generalization situation are responsible for the child's generalization or lack of generalization. In the response generalization phase of the Correa, 1982, study, the infants were seated in highchairs during training, and they were lying on the floor during generalization testing. Response generalization might have been facilitated if during training they had been required to creep slightly or to lean forward to reach and grasp the toys during training.

Further, researchers must learn how to identify generalization criteria for individual children in particular settings. These criteria should be based on an analysis of what is likely to be functional for a given child in a particular setting. The purpose of the measurement of generalization is to verify that a new skill has been acquired and integrated into the broader repertoire of the student. We need to ensure that the newly-trained behavior is used appropriately in combination with the child's other responses and in the appropriate environmental contexts. In other words, we need to provide an ecologically valid assessment of the effects of intervention.

Maintenance of newly-trained skills is an important issue regardless of whether one approaches intervention from a behavioral or cognitively oriented perspective. If the results of an intervention are not durable over time, the basis for more sophisticated responses may not have been acquired. There are a number of basic issues to be examined regarding skill maintenance. First, we must determine whether generalization and maintenance represent different behavioral processes. Research with autistic children suggests that there may be separate processes, differentially affected by the instructional and contingent aspects of the environment (Koegel and Rincover, 1977). A second issue is the application of appropriate research designs with which to investigate the functional relations between teaching procedures and maintenance of responding over time. Are we limited to descriptive data which merely show whether child responding continues after the training program is over? One could use control groups to determine whether some aspect of the training procedure was correlated with better maintenance by an experimental group (Kazdin, 1973), but that would not provide as rigorous a test as a functional analysis; and it would require groups of children with similar problems, when, in early childhood special education, the problem child may be unique.

It is probably that the more traditional single-subject research designs, such as reversal and multiple-baseline-designs, will be required to accomplish the kinds of component analyses of teaching procedures required to determine which variables are functional in promoting maintenance. One kind of component analysis suggested by Rusch and Kazdin (1981) involves the complete or partial withdrawal of different aspects of a teaching procedure to examine its effects on maintenance. Here, again, group controls for order of withdrawal effects may be needed. The practical problems associated with this kind of research have to do mainly with the hardiness of individual researchers and the length of periods over which research is funded.

Research on maintenance can be undertaken only when the initial training has been accomplished and the variables responsible for its success have been documented. A partial solution to this problem is offered by Timm, Strain, and Eller (1979), who used intensive but short-term intervention as the basis from which to examine maintenance. Their strategy of systematically reducing teacher attention and teacher prompts for social responding by preschoolers is one of several strategies reported in the literature for enhancing maintenance. Others are summarized and categorized thoughtfully by Stokes and Baer (1977) in their influential article on the assessment and technology of generalization. Although single-subject experimental designs have typically been used by behaviorally-oriented researchers, they might be used equally well by cognitively oriented researchers. The need for rigorous demonstration of generalization and maintenance resulting from an intervention cuts across all theoretical orientations.

Because the above questions about generalization and maintenance raise issues which are largely methodological, we have discussed the relevant methodological and conceptual problems at some length. Because the two new questions, one about children's learning strategies and the other about teaching strategies, are more concrete in nature, we will more briefly describe the topics of research which are at the forefront in the field of learning in early childhood special education.

Researchers must increasingly focus on teaching young children learning strategies which will enable them to learn more quickly and with more independence from teachers and parents. Such research must take into account individual differences such as a child's strengths, weakness, and temperament (Brooks-Gunn & Lewis, 1982). The kinds of learning strategies which have been the subject of concerted research to date include teaching the strategy of imitation of adult-presented models (Baer, Guess, & Sherman, 1972) and of peer-presented models (McCuller, 1981) for the development of appropriate language and social behavior. Another strategy is to teach specific visual attending patterns, such as orienting toward stimulus materials when they are presented (Winslow and Etzel, 1972) or visually scanning material to identify relevant, as opposed to irrelevant, features of the stimuli to be discriminated (Stella & Etzel, 1979). Verbal mediation in the form of reciting performance rules has been demonstrated to be a successful strategy for older preschool children (LeBlanc, Etzel, & Domash, 1978). Self-control strategies, such as those used by Holman and Baer (1978) taught 4-to-6 year old normally developing and delayed children the strategy of monitoring the accuracy of their own preacademic work (tracing lines), and of appropriately requesting teacher praise and attention for work well done. As demonstrated in the latter study, and others, the use of effective learning strategies by young children may provide a partial solution to the practical problems involved in producing generalized learning which is maintained over time. These and other issues concerning children's learning strategies will continue to occupy a major share of our professional attention in the years to come.

Research on methods for tailoring teaching strategy to meet the needs of young, handicapped infants and children and the effectiveness of such tailoring is also needed. One particularly pressing problem is how to extend well-researched teaching techniques to particular populations of handicapped children such as very young infants, mentally retarded, autistic children, or young, blind children. Poulson is currently engaged in research on extending various aspects of the operant language learning paradigm to infants as young as 2½ to 12 months of age (Poulson, 1982). Similarly, Burns (1981)

and Haywood (1977) are extending the cognitive learning strategies originally developed with adolescents (Feuerstein, 1980) to children of preschool age.

More research is clearly warranted on the powerful errorless-learning instructional strategies described by Etzel and LeBlanc (1979). Basic errorless learning techniques are stimulus fading and stimulus shaping. Founded on many years of psychological research in stimulus control (e.g., Sidman & Stoddard, 1966; Terrace, 1963; and Touchette, 1968), the application of errorless learning procedures to young and to handicapped children is virtually unlimited. Some of the early uses of errorless learning techniques have been to teach left-right concepts to retarded children (Bijou, 1968), and to teach selected prepositions to the severely mentally retarded (Dixon, Spradlin, Girardeau, and Etzel, 1974). Teachers who are unfamiliar with such procedures will remain severely limited in the extent to which they can solve basic child learning problems (Etzel, LeBlanc, Schilmoeller, and Stella, 1981).

Future research will also address the more general teaching strategy referred to as incidental teaching (Hart & Risely, 1968; Hart & Rogers-Warren, 1978; Rogers-Warren & Warren, 1980). Incidental teaching techniques include environmental arrangement, child-directed modeling, the mand/model procedure, the time-delay procedure, and incidental teaching. Whereas several of these techniques have been researched individually, systematic analysis of the effects of applying all five techniques simultaneously with moderately to severely delayed children have not been undertaken.

Research on learning processes and teaching procedures should not be limited to a single aspect of development in handicapped children. Rigorous research is needed in the areas of language, social, and motor development. Research with very young and severely handicapped infants is particularly needed to formulate effective early intervention programs beginning in the first months of life.

Research in learning is a one-step-at-a-time proposition, but the cumulative effect of taking those steps is a solid body of knowledge about reliable teaching procedures. A recently-published volume on teaching autistic children (Koegel, Rincover, and Egel, 1982) attests to the powerful outcome of a succession of careful studies on learning in autistic children. Koegel and his colleagues, over a period of 10 years and more than 30 studies, analyzed factors affecting the learning of language, academic and social behaviors. These experiments provided not only an important description of the learning characteristics of autistic children and procedures which improve that learning, but they also showed that thoroughly generalized and well-maintained skills can change quality of lives of children and their families.

The Technology of Teaching and the use of Technology in Teaching

One of the most promising developments in special education has been the advent of relatively inexpensive computers and their associated software and peripheral equipment. The promise of truly individualized child instruction and data-based decision making may at last become realities. Perhaps more than any single technical advance in the last 50 years, computers will shape the classrooms and programs of the next decade. Yet, computers and other technological devices are not a panacea. They will accompany and improve quality teaching by well trained personnel, but they will not replace it. The use of computer technology in early childhood education with mentally retarded

children is likely to be only as good as the data base on teaching and learning upon which it is founded. The use of technology *in* teaching requires that we have a well-developed technology *of* teaching. Computers do not invent new teaching procedures; they are programmed with existing procedures.

We are learning as a society that technology can be a helpful adjunct to everyday life and that it need not supplant human contact and social interchange (even computers can be "user-friendly"). Integration of computers into a supportive teaching environment for young children need not limit the positive, affective contact between children and teachers. In fact, it may free the teacher to develop more such contact. Ideally, technology and child-centered-programming are not only compatible but mutually facilitative.

Technology of Teaching

Research in learning has been critical to the development of instructional technology in all its subtleties and complexities. The extension of learning methodology to early childhood special education has taught us such skills as objectively specifying training targets, including the conditions under which training is to take place, the response to be taught, and the criterion performance levels to be met. It has taught us to carefully analyze skill prerequisites and to break down instructional sequences into small steps which provide opportunities for frequent reinforcement. It has taught us procedures for reliable measurement of children's responses, for assessment of change in response strength, and for evaluation of the effectiveness of our teaching procedures. It has even taught us how to measure generalization of responding to situations which vary from the initial teaching conditions. Instructional technology has developed to the point that it is, or should be, standard procedure in all early childhood environments; and, certainly, it defines minimum levels of competencies to be mastered through all early childhood special education teacher training programs (Tawney, 1981).

Although it required years for research in behavioral psychology to become translated into educational technology, we are now widely using that technology in early childhood special education. We have not yet met the goal of providing educational services for all our young handicapped children, but we do know how to proceed with that training. What we have yet to master is the use of sophisticated teaching machines and prosthetic devices to make the implementation of our educational technology even more widespread and more effective.

Technology in Teaching

The teacher of tomorrow will have access not only to a well-developed instructional technology but also to electronic and telecommunications technology. Such teaching machines as the microcomputer can provide immediate delivery of reinforcers for children's responses even when the teacher or parent is not present. Each child is free to progress at his or her own rate on materials arranged in small steps. Additional steps can be added to individualize programs for children so that their responses are almost always correct. Novelty in types of reinforcers delivered (e.g., sounds, pictures, or use of the child's name) can be programmed automatically. These and other advantages of electromechanical teaching devices to deliver sophisticated instructional technology were foreseen by Skinner as early as 1964 (Skinner, 1968; p. vii). Only now, nearly twenty years later, are we beginning to see the potential of teaching machines brought

to fruition in the delivery of instructional technology to handicapped infants and young children.

Although computers and other telecommunication devices have figured in the operation of infant learning research laboratories for many years (Caron and Caron, 1978; Gewirtz & Boyd, 1976; and Rheingold, Stanley & Cooley, 1962) the technology has been so cumbersome that large scale efforts to design teaching machines for use in the home by handicapped infants and children have been largely limited to federally funded technical development grants of limited duration. One such project carried out by Tawney (1979) and his colleagues involved the use of telecommunications technology to instruct rural severely handicapped children in Kentucky. Teaching machines designed to increase rate of motor responses and visual discrimination were placed in the home of 16 severely handicapped children ages 0–6 years old. Automatically-delivered reinforcers included tape recorded music, flashing lights, chimes, or vibration. Project personnel called the families, activated the home teaching machines through telephone line hookups, and then talked with the families by phone again after the 15 to 30-min teaching session. The goal of the three-year project was to develop and implement the telecommunications technology necessary for such an undertaking. Tawney reported (1979) that the entire project staff was absorbed in the solution of major technological problems for the first one and one-half years, but that they were able, during the third year, to demonstrate the system was reliable, that families would accept it into their homes and would use it regularly, and that many children learned new skills without the need for extensive parental monitoring and training. It was possible to accomplish this with families as far away as 275 miles from the training center. A description of four other federally funded projects using telecommunications to serve individuals in isolated areas is provided by Tawney (1977).

The technology available to Tawney and his colleagues in Kentucky was cumbersome in the extreme. It is a measure of their energy and dedication that they were able to carry the project to completion. That technology has now been replaced (Tawney 1979) by more manageable microcomputer technology capable of delivering more efficiently the basic program they developed.

Microcomputer technology which could replace the above telecommunications technology has been described recently by Brinker and Lewis (1982). One advantage they described is that a far larger number of infant and child responses can now be monitored than was previously possible with other switching and programming equipment. A second advantage is that changes in programmed contingencies of reinforcement can be made by simply typing a statement on the microcomputer keyboard. Finally the ability of the microcomputer to handle large amounts of information within milliseconds, and therefore to be contingently responsive to the infant's responding, is unparalleled by previous technology.

With the assistance of this new technology, Brinker and his colleagues designed infant instructional systems which allow automatic recording and programming of reinforcement contingencies for up to eight infant responses simultaneously, and for 16 other data entries made by human observers. The observer can press a button to indicate that an infant response has occurred and the microcomputer can deliver programmed contingencies. There are up to eight outputs, two of which can occur simultaneously following separate infant responses. The microcomputer has been programmed to automatically

switch reinforcement contingencies and specific reinforcers based on pre-defined infant response rates. The entire system fits into a suitcase. An excellent description of the system is provided by the authors in the October, 1982, issue of *Exceptional Children*.

Access to the microcomputer, and, of course, to other devices such as nonverbal communication aids and wheelchairs is made possible for the very young and for physically handicapped children with the development of an increasingly sophisticated array of prosthetic electronic and pneumatics aids. Typical devices include bar pulls, match-to-sample panels, stimulus keys, "joystick" levers, push-panels, push buttons, chin switches and tongue switches. The Prentke Romich Company catalogue of *Electronic Aids for the Severely Handicapped* (1980) and *Non-vocal Communication Techniques & Aids for the Severely Physically Handicapped* by Vanderheiden and Grilley (1975) are two examples of source materials in which a rich array of such aids is described. It is apparent that we have not begun to explore the full potential of computer-synthesized speech mechanisms with young handicapped children. Although it may be some time before computer recognition of young children's speech, as opposed to adult speech, is reliable, the talking capabilities of the computer could certainly be used in teaching receptive language to handicapped young children (Wilson & Fox, 1982) and to aid in their communication of needs to others in their environments. The great number of repetitious trials often required in the initial stages of language development with severely communication-impaired children (Lovaas, 1977) could be undertaken to some extent with the unlimited patience of a computer. Computer games familiar to most of us could be adapted for use by handicapped learners (Hughes, 1981a, 1981b), and could be further adapted for younger children. Mobility aids such as the Sonicguide (Ashcroft & Young, 1981) which uses sound patterns to convey spatial information, are developing apace with communication aids, and need to be adapted to the smaller physical size and more limited repertoires of the very young handicapped child.

Early childhood special education teachers will need to be aware of the development of these sophisticated devices, and they will need to be able to program them and be able to make minor adjustments in programs and equipment. Teachers should be well-motivated to do so, however, as these teaching aids have the capability of relieving the teacher of much repetitious program delivery time and of freeing him or her for more creative teaching activities, program, design, and planning. At the same time, such teaching aids are capable of providing a full day of instructional time for each child, which should dramatically increase the speed with which the child masters new skills.

The early childhood special education teacher will also appreciate the information and data management capabilities of the new computer technology. It will eventually become routine to develop and update a child's individual education program, to collect and store data on child performance, and to prepare all written reports of child progress with substantial assistance from the computer. A good description of the current status of this informational technology is provided by Tawney & Cartwright (1981) and by Campbell, Gibbs, and Snodgrass (1982). A more recent example of the use of computers in educational decision-making is provided by Hasselbring and Hamlett (1983).

Much of the capability of the new high technology for helping us implement instructional technology in early childhood special education, as elsewhere, will depend upon our ability to develop appropriate educational programs and effective computer software.

As Hannaford and Sloan (1981) so aptly remind us, teaching machines and adaptive equipment by themselves are useless unless they are used knowledgeably and skillfully by trained professionals. Programs must meet both child and teacher needs, they must have instructional integrity, and they must be technically adequate and useful to the instructional purpose for which they are designed. The high technology "revolution" will now, more than ever before, require teacher proficiency in the technology *of* teaching. And it appears that many will learn this educational technology itself through computer-assisted instruction.

Conclusions

This paper has addressed four major themes in early childhood education for the mentally retarded children and the handicapped. It is clear that the cataloguing of important issues could extend far beyond our discussion of these four. New concerns for quality of service and quality of life for young children emerge daily. We are beginning to look more broadly, and, at the same time, more individually at children and families, precisely because our earlier attempts to intervene have produced such positive outcomes. The problems we face are the problems of a second generation of committed educators, researchers, and parents building on the research, demonstration, and delivery of the first successful attempts to provide educational services to young handicapped children. The promise of early childhood intervention will continue to be realized to the extent that our efforts are based on the same sense of commitment and sound scientific principles that guided those earlier efforts.

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Perspectives on Instruction

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The past decade has provided educators and researchers an opportunity to observe the performance of mentally retarded students in interactions with non-handicapped peers, teachers, and the environmental features of the regular classroom. This has occurred as a consequence of legislation and/or philosophical beliefs about the advantages the regular instructional setting offers students considered to be mentally retarded. The mildly mentally retarded have been included as members of the mildly handicapped population and, therefore, candidates for regular classroom placement. While mildly mentally retarded students may vary from others considered to be mildly handicapped in their educational histories and response to selected instructional interventions, they also share common instructional and social needs. This chapter looks broadly at two major issues on those who will be referred to as academically handicapped learners. The mildly mentally retarded will be considered as part of this group but will also be discussed separately when appropriate. The two issues include: (1) the nature of their academic interactions with their teachers; and, (2) the curriculum approaches that are used to teach them social skills. The first issue is usually referred to as methods of educating children, while the second issue concentrates on materials for educating them. Limitations of space preclude a discussion of methods and materials in both the academic and social spheres. We decided therefore to focus on methods issues as they relate to academics, and materials or curriculum issues as they relate to social functioning. We chose this particular split because a variety of publications have already addressed in detail the wealth of academic materials that are available for handicapped children in the mainstream (Strain, 1981) as well as the diversity of methods that are available to train social skills (e.g., Gresham, 1981). Less prevalent in the special education literature on mainstreaming are discussions of methods to teach academics and materials to teach social skills. We shall indicate later in this chapter the reasons for the depth of discussion in the two areas we are highlighting; reasons that revolve primarily around the limited

amount of validated information that is a prerequisite to successful program implementation.

The literature on academics that we reviewed, specifically on teacher-pupil relationships, indicated the severe dearth of data pertaining to mainstreamed education, a point alluded to earlier by Jones, et. al. (1978) that is only now beginning to be addressed. The second area of concern to us was the curricula that are available to teach social skills to handicapped children in the mainstream. The reader is forewarned that this latter area which we consider to be of vital concern to successful mainstreaming efforts (see for example Kaufman, et. al., (1975) who defined mainstreaming in part as the social integration of handicapped children) has been the subject of even less empirical study than the area of teacher-pupil relationships.

Background

For more than 20 years educators have been concerned with identifying unique qualities that differentiate special education from education available to nonhandicapped school children. Although a variety of differences between special and regular education were posited, and some of the differences, such as class size, were undoubtedly true, many other alleged differences remained in the realm of conjecture. For example, the assumption that handicapped children—most often educable mentally retarded (EMR) children—received specialized curricula was only sometimes correct. When differences did occur they were often quantitative differences—less was taught—rather than qualitative differences. Another assumption, that special education teachers used specialized teaching methods, was seldom validated empirically. It was not that the data proved the assumption to be incorrect, but that the data were seldom even gathered.

What was unquestionably true during the past 20 years was that educators were becoming increasingly disillusioned with the lack of progress that educable mentally retarded (EMR) children in self-contained classes were making in comparison with other EMR children who had never attended self-contained special classes. Of the 10 studies that were conducted between 1932 and 1965 comparing the performance of EMR children in regular and self-centered classes, not a single one demonstrated that EMR children in self-contained classes scored as well on standardized achievement tests as their peers who remained enrolled in the regular classes (Kirk, 1964; Semmel, Gottlieb, & Robinson, 1979). Although there were a variety of methodological difficulties with this body of research the lack of academic validation of self-contained classes coupled with legal and social factors that leaned in a direction favoring regular class education for handicapped children provided considerable momentum for the movement to reduce dramatically the number of children who should be educated in self-contained programs.

It is important to bear two considerations in mind with respect to the movement away from self-contained classes. First, the absence of data that special classes were superior to regular classes on valued outcome measures was considered to be sufficient justification for the diminution of special class programs. It was difficult to justify a self-contained educational system that cost more, was racially segregated, and was generally exclusionary, when the demonstrated benefits to children were not better than could be obtained without special education support. Second, although certain aspects of the data suggested that special classes were more effective than regular classes, such as in fostering social adjustment (e.g., Kirk, 1964), these data were virtually ignored by the major segment of the professional community that favored a reduction in the number

of self-contained classes available for low achieving youngsters. From the present perspective, however, changes that occurred in the delivery of special education services were encouraged despite an almost total absence of information on the nature of educational programming that occurred in special education.

The likelihood is great that information regarding the way that special education services are delivered in the classroom would still not be available were it not for the occurrence of two events, one emanating from psychology and one from the field of special education. The psychological underpinnings regarding the quality of education offered to EMR children was the publication of Rosenthal and Jacobson's *Pygmalion in the Classroom* (1968) on teacher expectancies, which spawned a body of research on teacher behavior in the education research community. The central thesis of the teacher expectancy literature was that teacher's expectations for children of high ability differed from children of low ability. These different expectations lead to differences in their behavior, resulting in, or reinforcing, achievement differences between children. The special education foundation regarding the education of EMR children emanated from the variety of successful legal challenges to the way EMR children were classified by the schools. Schools placed almost exclusive reliance on I.Q. tests in determining whether children were to be classified as EMR. When the courts determined that the I.Q. test was discriminatory (Larry P. vs. Riles, 1974) many children who would have been classified as EMR were instead classified as learning disabled. As Tucker (1980) pointed out, many of the learning disabled children are low-achieving minority youngsters and are very similar to the population of low-achieving non-special education children of concern to researchers studying teacher expectancies and behavior.

The increasing numbers of children who are presently being classified as learning disabled, coupled with the legal and ideological movement regarding the placement of handicapped children in the least restrictive environment, have resulted in many low-achieving children classified as learning disabled being educated for at least part of the day in regular classes. The interest in identifying ways that teachers differentially treat low- and high-achieving children has naturally spread to encompass low-achieving children who are classified as learning disabled. But, as was indicated above, many children classified as learning disabled probably would have been classified as educable mentally retarded just a few years ago. Consequently, in keeping with the theme of the present volume, the remaining portion of this chapter will be devoted to teachers' instructional activities that are directed toward low-achieving youngsters who are classified as being mildly handicapped, a term that we are using to include children who are classified as either educable mentally retarded or learning disabled.

Because the study of classroom instructional practices as they affect handicapped children received its primary momentum from the lack of academic progress being made by low achieving youngsters in general, we will begin our discussion with a review of some of the main points in this body of data before proceeding to the more sparsely studied issue of teacher instructional behavior and curriculum considerations affecting handicapped children.

Studies of Classroom Effects

Review of the voluminous literature on classroom and/or teacher effects indicates that four major classes of variables can affect children's learning. These include: (1) background variables of the child, such as I.Q. and SES; (2) contextual variables operating in the

classroom, such as the type of grouping practices employed by the teacher, percentage of time spent in academics, etc.; (3) the nature of teacher interactions with pupils; and (4) the type of interactions pupils have with each other. Although these four categories do not exhaust the possible influences on pupil performance, a substantial bulk of the overall literature falls into one of them and, for our pruposes, it represents a convenient way to reduce a large and diverse body of work, and serves as a foundation to research on teacher behavior in special education.

Background Variables

The fact that I.Q. and SES correlate significantly with academic achievement is not new information (Coleman et al., 1966) and is hardly surprising. Since a defining characteristic of mental retardation is low I.Q., and since a substantial percentage of mildly handicapped children come from low SES backgrounds (MacMillan, 1977), it is readily apparent why these children do not achieve at the same level as nonhandicapped peers. These facts, however, do not excuse educators from developing educational programs that can improve children's academic performance, as Nichols (1978) pointed out in a detailed review. Evidence that pupils' backgrounds *are not* the sole determinants of educational performance comes from a variety of sources including studies on the effects of schooling (Harnquist, 1968; Jencks, 1972), compensatory education (Gray & Klaus, 1965); massive intervention (Garber & Heber, 1977; McKay et al., 1978); children reared in isolation (Curtiss, 1977; Clarke & Clarke, 1976); and nutrition (Birch, et al., 1971). The point being made is that although I.Q. and SES may be important influences on pupil's school performance they are not the only influences. Other factors must also be considered, such as the ones appearing below, which combine to define school effects.

Contextual Variables

A variety of contextual variables have been theorized and shown in the educational psychology literature to relate to children's achievement. One of the most elegant uses of a contextual variable was made by Harnischfeger and Wiley (1976) in their model relating quantity of schooling (time) to achievement. The key proposition of the model is that a student's total active learning time determines the amount of material that is comprehended. Recent evidence marshalled by Berliner (1981) indicates that considerable variability exists in the total academic learning time provided by teachers and that learning time does indeed relate to achievement (Frederick & Walberg, 1980).

Teachers' grouping practices is another contextual variable that has been the subject of considerable research. Although this literature has been marked by conflicting findings regarding the affects of ability grouping on achievement (see, for example, the review by Rosenbaum, 1980), recent large-scale research which has focused on the effects on arithmetic achievement by percentage of low- and high-achieving pupils in a classroom has found that the greatest gains were made in classes having no more than one-third low achievers but more than one-third high achievers (Beckerman & Good, 1981). The implications for mainstreaming are obvious; children should be placed in primarily high-achieving classes, which is diametrically opposite to present day practices of placing handicapped children in low-track regular classrooms (Gottlieb, Agard, Kukic, & Kaufman, 1976).

Still another variable of concern in this regard is class size. Recent meta-analysis of the class size literature has indicated small, yet significant, relationships between class size and achievement. Not only does class size relate to student's achievement, it has also been a major political concern among union leadership personnel (Ryor, 1976) who argued that the presence of handicapped children would increase class sizes and reduce teachers' efficiency. At the present time, this assertion remains untested.

Teacher-Pupil Interactions

When Rosenthal and Jacobson (1968) reported on the Pygmalion effect, research on teacher-pupil relationships emerged as a major discipline in educational psychology. Major summaries of this literature have appeared in several publications (e.g., Good & Brophy, 1974; Dusek, 1976) and need not be summarized in detail here. For our present purposes it is sufficient to indicate that theorizing in the domain of teacher-pupil relationships has progressed from the basic process-product model to the more encompassing model whereby background and contextual variables are recognized to be explanatory constructs in analyzing classroom processes.

The initial process-product paradigm of teacher effectiveness related specific behaviors to pupil outcomes (Rosenshine & Furst, 1973). More recently, Good (1980) posited a five-step model to explain how teachers' behavior affects children's learning. The five steps include:

Step 1—The teacher expects specific behavior and achievement from particular students.
Step 2—Because of these different expectations, the teacher behaves differently toward different students.
Step 3—This treatment tells the student what behavior and achievement the teacher expects from them, and affects their self-concepts, achievement motivation, and levels of aspiration.
Step 4—If this treatment is consistent over time, and if the students do not resist or change it in some way, it will shape their achievement behavior. High-expectation students will be led to achieve at high levels, whereas the achievement of low-expectation students will decline.
Step 5—With time, students' achievement and behavior will conform more and more closely to the behavior originally expected of them.

Naturalistic studies of several elements of the five-step loop have documented that teachers' differential treatment of pupils depends upon the teacher's perceived potential for the student. This differential treatment occurs in many forms (McMillan, 1980; Brophy, 1970). Low expectation students may be seated as a group or farther away from the teacher. They may receive less attention, praise, and/or eye contact. The teacher may spend less time with a perceived low-expectation student after that student answers incorrectly. The feedback which the students receive is less accurate and less detailed. They receive more praise for marginal or inadequate responses, or more criticism for inaccurate responses, thus giving the student an unclear message regarding the need for accuracy (Brophy, 1970). Some teachers, conversely, are excessively sympathetic to low-expectation students. Both of these types of teachers fail to teach the student the relationship between effort and outcome (McMillan, 1980).

While it is sometimes assumed that teacher praise is a positive behavior and serves many functions, it cannot be equated with reinforcement (Brophy, 1981). In naturalistic settings, praise fails to correlate with cognitive classroom processes; affective correlates have not as yet been studied.

Teacher approval also bears some relationship to the sex of the child, with girls having sometimes been found to receive more approval and boys more disapproval (Myer & Thompson, 1956). Teachers also tend to emit more disapproval in low-ability than in high-ability classes. When identified in terms of their interaction with students of perceived high and low potential, three types of teachers can be identified: (1) overreactive teachers who exaggerate initial student deficiencies and cause further decline by providing less educational opportunity; (2) reactive teachers who allow the high students to dominate the class primarily because they demand more; and (3) proactive teachers who could build a class structure to meet the needs of various types of students (McMillan, 1980).

It has also been suggested that the teacher expectation-student behavior paradigm is mediated by the level of control which a teacher expects to have (Cooper, Hinkel, and Good, 1980). Teachers viewed interactions with low expectation students as less controllable than those with high expectation students. Students who were perceived by teachers as less controllable received less feedback, more private interactions, and more behavioral interventions.

The relationship between teacher attitudes and student behavior has been classified into four patterns: attachment, concern, indifference, and rejection, both in early work by Silberman (1968) and a replication study by Good and Brophy (1972). The attachment group was composed of high achievers, while the remaining three groups contained middle and low achievers. Behaviors by teachers and students also varied as the year progressed, with teachers becoming less active and students more active (Good, Cooper, and Blakey, 1980).

Literature on classroom processes has served as a model of sorts for research on teacher-pupil relationships in mainstreamed classes. In the following section this literature is presented. The reader will note the relative sparsity of data related to handicapped children despite the alacrity with which children are being educated in mainstreamed settings.

Instructing Academically Handicapped Children in Regular Classes

Only one large-scale study has been designed to investigate daily programming for mainstreamed EMR learners. Kaufman, et al. (in press) conducted in-depth observations of 150 special and 400 mainstreamed regular classes for an average of 10 hours each. The data were intriguing in their demonstration of instructional similarities and differences between special and regular classes. For example, regular-class teachers taught in large groups (to the class as a whole) 75.7 percent of the time. Special-class teachers used large group instruction only 44.8 percent of the time. Conversely, special-education teachers provided individual instruction 26.7 percent of the time, whereas regular class teachers did so only 12.0 percent of the time. Substantial differences were also observed in the percentage of time that special- and regular-class teachers allocated to reading instruction. Regular-class teachers reported that they spent an average of 16 percent of the school day on reading instruction. Special-class teachers on the other hand, reported that they spent an average of 27 percent of the time on reading instruction.

Despite these rather dramatic differences, the kinds of teaching behavior that occurred in special and regular classes were remarkably consistent. Questioning was done by regular- and special-class teachers 10.7 and 12.2 percent of the time, respectively. Directing was done 19.3 and 22.6 percent of the time by regular- and special-class teachers. Likewise, pupils in regular classes interacted with the teacher for 27.8 percent of the observations, whereas self-contained class children interacted for 26.5 percent of the observations. Children in regular and special classes interacted with other pupils 5.3 and 5.2 percent of the time, respectively.

Kaufman et al.'s (in press) data indicate strongly that, with the exception of the grouping arrangements that are used for instruction, there are few differences between the types of education offered in regular and special classes. It is not surprising, therefore, that research has uniformly failed to indicate achievement differences between EMR pupils in special and regular classes (Semmel et al., 1979); there appear to be few, if any, meaningful instructional differences.

The Project PRIME data base, although large in scope, was limited in several important ways. First the data were collected in 1970 when mainstreaming was in its first year of operation in Texas. Many changes undoubtedly occurred after the first trial year, and the PRIME data base cannot address these changes nor their consequences. The second limitation of PRIME was that it collected data during a single academic year and no information is available on developmental changes that occurred. Finally, although PRIME reported many intriguing correlations between classroom processes and the behavior of handicapped learners, no attempts were made to validate these correlations by experimental research. Subsequent research on the mildly handicapped children has largely failed to correct these deficiencies.

The bulk of the more recent literature on academically handicapped children in the classroom consists of studies, many of them conducted by Bryan (Bryan, 1974; 1976; Bryan & Wheeler, 1972), with scattered other reports available (e.g., Richey & McKinney, 1978; Richey, Miller, & Lessman, 1981).

In the main, these investigations compared the behavior of learning disabled and non-handicapped school children, usually in the regular classroom. Results of these studies suggest that learning disabled children tend to spend less time on task than nondisabled youngsters (Bryan & Wheeler, 1972; Bryan, 1974). Somewhat similar findings were reported by Richey and McKinney (1978), who reported that LD pupils spent less time than nondisabled children in constructive activities.

It should be indicated, however, that the investigations on mainstreamed learning disabled children reported above were based on very small samples, with none of the reported studies observing more than 18 children. Consequently, the data should be interpreted cautiously. Furthermore, although some of the data were collected for several months (e.g., Bryan, 1974), for the most part the amount of time devoted to direct observation was not nearly sufficient to study the critical issues that we raised earlier.

Literature on teacher-child relationships among LD children was reviewed recently by Bryan (1979). Bryan noted the lack of consistency in the data, which she attributed to variations in background (age, sex, group status), variables that were not controlled by the investigators. Among those who researched teacher-child relationships with LD children were Chapman, Larsen, and Parker (1976) who reported, based upon 13 weeks

of observations, that teachers interacted more frequently with learning disabled than with high ability children, and that these interactions involved both more praise and more criticisms. The fact that LD children received more interactions from their teachers was also reported by Forness and Estveldt (1975). However, similar differences were not observed by Bryan (1972) or Richey and McKinney (1978), leading to uncertainty as to the frequency and nature of teachers' interactions with mainstreamed LD children.

The influence of contextual variables, such as class placement, also affects the nature of teacher-child interactions, as was noted by Bryan (1974). In that investigation, Bryan reported that LD children received more praise and less criticism when interacting with the learning disability teacher in the resource room than when interacting with the regular classroom teacher.

Interpretation of the preceding data on teacher-child relationships is further complicated by the differing ages of LD children in the studies reviewed. For example, the children in the studies conducted by Chapman et al. (1976) and Forness and Estveldt (1975) were younger than those studied by Bryan (1974) and Richey and McKinney (1978), thus, differences in outcomes could have been attributable to this background factor. Given the findings that LD children spend less time on task than their nonhandicapped classmates, it should come as no surprise to the reader that the academic achievement of LD children is depressed; data consistently reveal significant relationships between attending behavior and achievement for regular education children (Samuels & Turnure, 1974; Cobb, 1972; Lahaderne, 1968) as well as for learning disabled youngsters (Forness, Guthrie, & Hall, 1976; Forness, Hall & Guthrie, 1977). Although the majority of these data were collected with young children—in kindergarten or first grade—they present clearcut evidence of the possibility that improvement in LD children's attention span may result in improved achievement. At this time, however, this hypothesized causal link remains in the realm of speculation.

Thompson, White, and Morgan (1982) also studied the type of instruction to which learning disabled children in mainstreamed classes were exposed. These investigators observed learning disabled children in 12 third grade classrooms and found that they were not treated differently than either low achieving children who were not diagnosed as handicapped or high achieving classmates. The data did indicate that LD children were treated differently than behaviorally handicapped children in their mainstreamed classes; however, only two classrooms had behaviorally disordered children, consequently the data must be interpreted cautiously.

In sum the literature in the field of learning disabilities suggests that children identified as LD tend not to achieve well, tend not to be socially accepted by their classmates and engage in maladaptive behavior with respect to academic achievement. The literature in this area, however, is meager.

A major limitation of research dealing with teacher-pupil processes is that it specifies what the teacher actually does in class, but provides few insights into the appropriateness of what she does. One may infer, of course, that considerable offtask behavior by the child is a clue that what is being taught is not capturing the attention of the learner, but direct observation of classroom processes provides no indication of what else might be taught, nor how it should be taught. We now turn our attention to the issue of what should be in mainstreamed settings. We are specifically focusing on social development for reasons we alluded to earlier.

Curriculum Considerations for Handicapped Learning

The major element of instructional programming, and the medium through which most teachers work, is the academic curriculum. Teachers use curricula to structure what they teach, the sequence in which they teach, and the pace at which they will present the information. Traditionally, discussions of educational curricula in regular education focus on the acquisition of academic skills. Reading, writing, and arithmetic define the core of the usual curriculum, with other subject matter areas as social studies, art, music, and science being included in most elementary school curricula for nonhandicapped learners.

The advent of the mainstreaming movement in which many handicapped learners are spending a portion of the school day in regular classes confronts the field of special education with some unique problems, problems that have not as yet received sufficient attention by the educational community. The primary problem stems from the appropriateness of curricula that are offered to handicapped learners in regular classes. The reader will recall that, historically, curricula for handicapped children, especially educable mentally retarded children, placed considerable emphasis on fostering social development, including social skills. Goldstein's (1974) Social Learning Curriculum is perhaps the most elaborate attempt to develop a comprehensive curriculum to teach social skills to handicapped children. The assumption was made that without direct instruction EMR children would not acquire the appropriate social skills unlike nonEMR children who often acquire their social skills through the course of interactions with their peers.

Because a defining characteristic of mental retardation is poor adaptive behavior, and one major part of adaptive behavior is good interpersonal skills, it is evident that many retarded children require more than what is available in regular classes. If regular classes were sufficient vehicles to inculcate social skill development, many retarded children would probably never be diagnosed as retarded. The simple fact is that many children were labeled as mentally retarded because they could not be accommodated successfully in the regular class.

Given that retarded children require instruction in social skills, the question arises as to what curricula are available to teach them social skills. Many of the available curriculum follow the traditional academic format and make little effort to define an area of social skills intervention. Many of these simply teach the skills necessary to perform a particular task (e.g., auto mechanics, housecleaning, or gardening) in sequenced and highly simplified steps assumed to be "appropriate" for retarded or learning disabled students. Some of these task-oriented curricula have added to the student's repetoire of skills; however, socially required behaviors for retaining a job, such as getting to work on time or employee-boss relations were not taught and often left to the student to acquire. What is obvious but ignored by originators of such curricula, is the fact that social behaviors are not isolated behaviors that can be performed without a supporting repetoire of other skills and appropriate motivation. Task-oriented curricula perpetuate the failures that researchers have noted, where the retarded person's lack of appropriate social behavior often resulted in the loss of a job that was competently performed.

An equally large number of available curricula address the area of "independent living." These follow in the tradition of self-care programs. Curricula of this type are concerned with instilling skills to maintain bodily functions and basic health requirements. The product of such a program is often a person well equipped to perform any of a number

of specifically defined tasks in controlled situations. Alter the circumstances or requirements of the task, however, and the question arises as to the ability of the student to transfer learned behavior to altered requirements.

The lack of a theory of learning and/or development in many of these curricula may account for their failure to remediate social behaviors effectively. If one does not determine how social learning occurs and is maintained in a normal environment, then we are hampered in efforts to teach behaviors that will be applicable to a normal environment. In order for social behavior to be maintained and practiced it must be modeled, it must be of recognizable value to the learner and it must be practiced in nonsimulated situations. These elements exist in many curricula, but the skills are taught as separate entities, compartmentalized as individually attainable items. Social skills training can only occur as part of a holistic-type curriculum that relates vocational, self-care and all other living skills as a matrix of interrelated and interdependent behaviors and responses to a total environment.

As no curriculum can be expected to teach all possible social situations and reactions to each situation, an effective curriculum must teach instead effective modes or methods of response. Specific behaviors covering specific situations will be effective only in those situations unless generalizing principles can be elicited and application made in novel situations. An 'effective' curriculum must prepare students to interpret situations, to recognize commonalities in situations and to develop strategies for approaching situations. Curriculum that attempts to teach such problem solving strategies are not common in special education today; they are probably nonexistent in regular education curricula.

Before we present some of the available curricula to teach social skills, we will first indicate the purpose of a curriculum and some of the models that are available to guide curriculum development. We will subsequently indicate for illustrative purposes some of the available social skills curricula and indicate the formidable obstacles that must be overcome before they can be used effectively in regular classes housing handicapped children.

Curriculum Models

Changes in legal standards (e.g., P.L. 94-142) and socio-philosophical perspectives (e.g., normalization, mainstreaming) have required a broadened view of the curricula which must now be emphasized. Unlike before, when self-help skills formed the core of a curriculum, now interpersonal skills must be heavily emphasized. It is the responsibility of educational planners and programmers to develop these prerequisites to acceptable social adaptation in new environments. Although educational programs cannot possibly hope to provide instruction in every possible life situation that an individual will experience, the teacher must structure learning to optimize the students' acquisition of a social repertoire needed to perceive, judge, and select the factors in a situation that determines the appropriate behavior. To this end, a teacher has two interrelated curriculum tasks. First, to identify, select, modify and adapt curriculum content and second to interface the content with instructional strategies to maximize the students' learning. The complexity of this interaction of content and instruction is presented in Figure 1 and its elaboration in Table 1. Utilizing Frostig and Maslow's (1973) matrix for discussing the implication of psychological theories for instruction, Figure 1 expands their matrix by introducing a third dimension, intervention strategies.

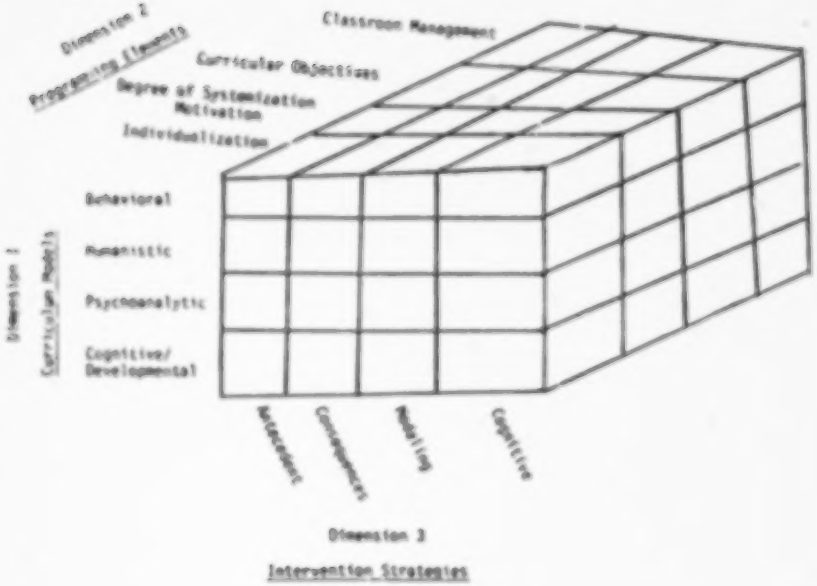

Figure 1

In the Figure Dimension 1, *Curriculum Model*, highlights four theoretical models that are used as ideological frameworks for curriculum. The four models look at human behavior and basically arrive at similar conclusions about the end product of their respective programming. However, the models differ in that the focus of each varies and their pedagogical applications show wide diversity.

The educational goal of the behavior model is for a person to master skills taught in a task-analytical mode. The basic assumption of the model is that growth is a continuous process of learning which is a function of contact with an environment that gradually shapes behavior. The theoretical focus is the student's behavioral achievements, particularly those that bring him into increasing conformity with his physical and social milieu. The empirical focus of the model is on the cause of short-term change, and to determine how a given association or response is acquired. Educational programming is seen as the gradual and continuous acquisition of behavior which results in age-appropriate functioning with skill competence as the goal of education.

The humanistic model emphasizes the development of a loving, creative human being with a strong social conscience and a keen awareness of the needs of others. One of the central concepts of humanism and one most important for the teacher to understand is the concept of becoming (Allport, 1955; Maslow, 1962; Tillich, 1952). The teacher needs to assume responsibility for helping the student develop in his totality. The teacher not only has to set tasks, provide stimulation, and guide the student's physical, mental and emotional development, including a system of values based on empathy with and respect for others, but also has to be very aware of those aspects in the student's life

TABLE 1

Dimension 2	*Dimension 1*			
	Behavioral	*Humanistic*	*Psychoanalytic*	*Cognitive/Developmental*
Individualization	Individualization of task assignment taking the child's level of functioning into account. Individualization of rewards and of discipline.	Individualization of total approach according to needs and individuality of child, on an intuitive basis as a consequence of shared experience.	Individualization in relation to differences of needs and maturation level, task assignments, personal relationships, and total approach.	Adaptation of tasks to child's developmental stage and previous experiences.
Motivation	The child's interests and needs are not accepted as "given"; they are to be changed and manipulated, whenever this seems of advantage. A reward system motivates the child. Motivation is extrinsic.	Satisfaction of needs is necessary for optimum learning ability. The child's need for experience, his wish to be helpful and to communicate with others. Motivation is intrinsic.	Satisfaction of needs regarded as the prime source of motivation ("the pleasure principle"). Needs for love, security, and mastery and emotional and social needs must be satisfied before energy and interests are available for learning. Motivation is both extrinsic and intrinsic.	Interests are the expression of a "drive" toward equilibrium. Knowing is a motive in itself. Motivation is intrinsic. The need for equilibrium is as compelling as physiological needs.
Curricular Objectives	Focus on academic knowledge and skills and on socially defined personal and social behavior characteristics.	Focus on social development, communication skills, and sensitivity to beauty and other humanistic values. The child's sensitivity to group needs as well as to individual needs is to be enhanced. Social influences are more emphasized than biological ones. The goal is optimum interrelationship with the environment, not adjustment.	Focus on emotional development, communication skills, and social institutions. Social interaction is used as a tool to further emotional growth. Academic knowledge and skills are tools to achieve the main objectives of later mature adjustment.	Focus on total development: sensory-motor, language, and cognitive. Social interaction serves as a tool to develop decentration, intelligence, and logical thought.

Frostig, Marianne & Maslow, Phyllis. *Learning Problems in the Classroom*. New York: Grune and Stratton, 1973, 97–103.

that could hinder development (Frostig and Maslow, 1973, 67–68). For the humanistic approach, self-fulfillment and understanding are the goals of education.

The psychoanalytic model seeks to develop a person free of neuroticism, not suppressed by cultural demands, is socially aware, responsive and cherishes human values. Sometimes the psychoanalytic theory emphasizes the person while and at other times it emphasizes the environment. The focus is dependent upon which part of the personality structure is considered. For example, the original source of id-environment interaction is assumed to be the individual's innate intuition whereas the prime source of superego functioning is the actions of the environment on the individual. The major concerns of the psychoanalytic theory, regardless of focus, are with psychological phenomena that are conscious, preconscious, or unconscious mental experiences, feelings and thoughts. However the theories do not provide a clear or consistent picture of the interactive sources of these psychological phenomena. Despite this information, the goal of education from a psychoanalytic viewpoint is for personal adjustment and appropriate interaction with society.

The cognitive-developmental model directs its program towards a person who has optimally developed his cognitive functioning and who is innovative and flexible in his thought processes. A major characteristic of the model is that it distinguishes between the form and content of personal and social experiences, knowledge and feelings. Forms are progressively constructed from one's own actions and content is influenced by the particular interactions the person has with the environment. The forms constructed are determined by the stage of action to which the person has developed, while content varies with the physical and social environment in which he lives. From a cognitive-developmental perspective the goal of education is for the individual to utilize his intelligence equally well in decisions pertaining to both self and to others.

The diversity in the application of the respective models is reflected in pedagogical practices. Dimension 2 represents a sample of programming elements a teacher should consider in the development of an educational program. The primary characteristic of the factors is that they can facilitate and/or inhibit learning. These factors reflect the dynamic interaction between the teacher, the student and the curriculum.

Individualization refers to the teacher's recognition, identification, selection and programming of the individual qualities of the student. Realizing that the student enters the class with a behavioral repertoire of skills, attitudes and knowledge the teacher must program to change or maintain this behavioral repertoire.

Motivation refers to the idiosyncratic interests and needs of the student that will increase the probability that the student will acquire skills and participate in the learning situation.

Degree of systemization refers to the physical, social and psychological environment of the class. The manner and degree to which the teacher structures the classroom to meet the needs of the individual and the group. This task is not limited to the physical environment, but includes psychosocial environmental factors. For example, the grouping of students, freedom of student expression and disciplinary techniques.

Curricula objectives refers to the source, type, sequencing and implementation of instructional content. The curricula objectives are the backbone of an individualized educational program. Specifically, long-term and short-term objectives are generated by the teacher for a student based on a curriculum.

Finally, *classroom management* refers to the type(s), methods, and procedures the teacher utilizes to manage student learning. This can range from a teacher-centered approach to a child-centered approach. The difference being the role(s) and degree of involvement of the teacher.

The third dimension in our model focuses on intervention strategies that have been developed to improve handicapped learners' social skills. Borrowing from Gresham's (1981) review, with some modification mainly in the interest of preserving space, we divide the research in these areas into two types; studies which manipulate antecedent events and studies that manipulate consequent events. That is, these research studies, which evolve out of a behavioral orientation, view a child's inappropriate social behavior as being influenced by circumstances in that child's environment. By altering the environment the assumption is made that behavioral changes can follow. Other models for social skills training are available, and the reader is directed to Gresham's excellent review for a more detailed accounting of these approaches.

Manipulating Antecedents

One general approach which has been widely utilized to improve social interactions between handicapped children and their non-handicapped peers in the mainstream is structuring of classroom environments, or manipulation of antecedent events. Research in the area of environmental structuring to facilitate positive social interactions has revealed three major techniques which have been used: 1) sociodramatic activities; 2) peer initiations; and 3) cooperative games and tasks. Social interaction gains as defined by increases in verbal, physical, gestural, and social interactions have been reported through these methods.

The salient feature of antecedent manipulation is the structuring of group play activities and/or academic activities (which require limited academic performance on the part of the handicapped child) in such a way as to reveal the handicapped child in the most positive possible light. This is done by presenting to the group a task which requires the participation of all members in the group to successfully attain closure. Therefore, the group as a whole receives the positive reinforcing experiences and the handicapped child subsequently appears as a more integral part of that social unit.

Sociodramatic teacher-structured free play activities require children to participate in an activity in which handicapped and nonhandicapped children assume familiar roles in children's stories or act as "community helpers" in plays designed to facilitate interaction between the children. The majority of studies which have been done in the area of sociodramatic activities involve pre-school children (Strain, 1975; Strain & Wiegerink, 1976).

The second paradigm, peer initiations or "play" involves the arrangement of game playing tasks to facilitate social interaction and peer acceptance. The general procedure involves enlisting peer confederates trying to get the handicapped child to play with them in free play situations. Confederates approach the child with such statements as, "come play", "let's play ball", "you play well". The confederate then demonstrates to the handicapped child appropriate modes of behavior. The major focus of peer initiations or processes are more commonly referred to as modeling.

Proponents of mainstreaming assume that merely by placing the handicapped child alongside his non-handicapped peers, modeling of appropriate behaviors both social and academic will result. The theory (Bandura, 1971; 1977) as well as the majority of research in this area (Appolloni, Cooke & Cooke, 1977; Strain, Shores & Kerr, 1976) does not support this assumption. Modeling does not appear to occur spontaneously among handicapped learners rather they must be specifically taught how to employ the processes involved.

The final paradigm, cooperative games and tasks, have shown that social interaction and peer acceptance of handicapped children can be facilitated (Ballard, Corman, Gottlieb & Kaufman, 1978; Milhaug & Wolfe, 1976) and that such gains can be maintained over time. An interesting study by Alvia, Beaver and Pettus (1978) yielded results indicating that the presentation of information to an EMR's nonhandicapped peers regarding the EMR's competency in game-playing situations significantly increased the probability of the selection of the EMR by their non-handicapped peers in subsequent tasks. Apparently, what this suggests is that competency statements about retarded children will increase the probability of social interactions on the part of the peers. Similar findings were reported by Ballard et al. (1978) in which a class as a total unit was divided into smaller groups some of which contained handicapped children working on a cooperative task. It was found that handicapped children functioned as integral parts of the groups and enjoyed significantly higher social status after treatment. Treatments had a duration of 8 weeks, indicating that perhaps long-term gains can be yielded by long-term interventions. The reader is referred to Gresham's (1981) excellent review for a detailed analysis of each of these techniques.

For our purposes here, however, it is sufficient to note the virtual complete absence of any linkages between the methods designed to train social skills; i.e., the manipulation of antecendents or consequences, and the available curricula. There is an equally glaring gap between the curriculum developed and theories of curriculum. Until the methods and materials are joined more closely than has been the case until now, it is not likely that social skills will be effectively taught in the classroom, mainstream or self-contained.

Thus, it appears from perusal of the literature that peer initiations and sociodramatic activities are effective for increasing social-interaction rates, but data adequately addressing generalization and maintenance of these effects is not present. Task arrangements, competency statements regarding handicapped child's ability, and the presence of socially facilitating teachers and confederates appear to increase the social interaction rate and peer acceptance of handicapped children. It appears that success requires a highly structured environment in which handicapped children and their nonhandicapped peers have directed activities.

Manipulating the Consequences

Techniques in which the consequences of behavior have been manipulated to yield increments in social interaction rates and to train a variety of social skills abound in the literature. This procedure is more time consuming than the structuring of classroom environments, however, results are generally more dramatic. Four categories of teachers' feedback are as follows: (1) contingent social reinforcement; (2) token reinforcement; (3) group contingencies; and (4) differential reinforcement of other behaviors (DRO).

Each approach will be addressed briefly in order that the reader gains a sense of the flow of findings in the literature.

(1) *The contingent social reinforcement* paradigm maintains reinforcement contingent on a criterion of social interaction to increase handicapped children's rate of behavior (Kopstein, 1972; Mayhew et al., 1978). The procedure involves a teacher or an attendant socially reinforcing an isolated child whenever he or she interacts or cooperates with others in a social environment (Allen et al., 1964; Buell et al., 1968; Mayhew et al., 1978).

(2) *Token reinforcement economics.* An economy is established with children earning tokens (tangible rewards such as poker chips, coupons) for appropriate well-defined behaviors, and often, although not necessarily, losing tokens for emission of inappropriate, well-defined social behaviors. Both methods have been found equally effective in developing social skills (Fixen et al., 1978; Phillips et al., 1971).

(3) *Group contingency measures* refer to the establishment of criteria for group behavior in a classroom drawn from operant techniques (Litow & Pumory, 1975). Three types of designs have been used to control classroom-based behavior: a) dependent contingencies—same response (R) contingencies are in effect for the whole class but are only applied to the performances of one or more selected members of the class; (b) independent group contingencies—same R contingencies are concurrently in effect for all group members and are applied to a level of group performance.

(4) *Differential reinforcement of other behaviors* (DRO) consists of presenting positive reinforcement following a specified interval of time during which a behavior has not been emitted. If an unacceptable behavior does occur during the interval, that interval is concluded, and another interval begins. Time intervals are initially of a brief duration, increasing as the children meet the criterion.

Social Skills Curricula

The final part of this chapter is concerned with the social skills curricula that are available to teach handicapped children in their classes. The majority of research on social skills improvement some of which we reviewed briefly in the previous section, was conducted outside of the classroom, usually in separate rooms in school or institutional settings. The curricula themselves on the other hand, were developed mainly for use in classrooms. Thus, there is a general lack of continuity between the literature on methods for fostering improvement in social skills, and the curriculum materials that have been developed for the same purpose. A sample of several available curricula appear in Table 2. In this table, we indicate the theoretical model which serves as the foundation for the curriculum, when such a theoretical model is available. Also, we indicate some of the main content areas of the curriculum, the children for whom it was developed, and their ages. Additional information on the curricula that have been developed are available from the authors.

Summary and Conclusions

The literature on the nature of academic instruction in the mainstream, as well as the curricula that are used to teach handicapped children social skills, does not reveal a

TABLE 2

Curriculum	*Theoretical Model*	*Components Addressed*	*Specific Competencies Taught*	*Organization*	*Population*
A PERSISTING LIFE NEEDS APPROACH TO A CURRICULUM FOR THE EDUCABLE MENTALLY RETARDED, Kenneth Blessing, Wisconsin State Dept. of Public Instruction, Madison WI 1970	Psycholinguistic	Persisting life situations	Communicating ideas, understanding self and others Traveling Adjustment to various situations Health care Safety concerns Earning money Homemaking Money management Leisure time Appreciation of arts & beauty	Present objectives and perspective & describes concepts & activities of 12 curriculum units. Separate objectives & activities at primary, intermediate & secondary levels are listed for each unit. Approaches to learning & behavior development are discussed. Use of prescriptive teaching & Psycholinguistic instruction	Educable mentally Retarded
ADAPTIVE BEHAVIOR CURRICULUM: PRESCRIPTIVE BEHAVIOR ANALYSIS FOR MODERATELY, SEVERELY, & PROFOUNDLY HANDICAPPED STUDENTS, Dorothy Popovich & Sandra Laham, Paul Rookes, Baltimore, MD, 1981	Behavioral	Self help Communication Perceptual motor development Socialization Aquatics (socialization: attending play, safety, school behavior, manners, music, functional signs, transportation)	Feeding, dressing, personal hygiene, receptive & expressive language, gross & fine motor skills, physical education, prereading, perceptual skills, independent living skills, social skills, numerical functions, swimming skills.	Task analyzed sequences for each section with behaviorally specified terminal objectives. Developed on principle of backward chaining 3,500 behavioral objectives.	Moderately, profoundly, & severely handicapped & multiply handicapped

TABLE 2 (Continued)

Curriculum	*Theoretical Model*	*Components Addressed*	*Specific Competencies Taught*	*Organization*	*Population*
CHILDREN WITH LEARNING PROBLEMS: A HANDBOOK FOR TEACHERS, Larry Faas, Houghton Mifflin Co., Boston, MA, 1980		Social Perceptual-motor Visual Language Academic	Hyper- and hypo-activity Attention Organization Social Perceptions Gross & fine motor Body image Coordination Gestures Reading Spelling Handwriting Mathematics	Describes instructional approach using task & process analysis, contains suggested diagnostic & remedial techniques in each skill area, includes background information on learning problems, writing IEPs, selecting least restrictive settings & services, parental contact & record keeping.	Children with learning problems
DEVELOPMENTAL PLAN HANDBOOK FOR COMMUNITY SKILLS TRAINING, Martin Roth, Staten Island Developmental Services Office, 1979	Behavioral	Community living skills	Personal management Housekeeping skills, kitchen skills, street safety, travel skills, functional academics, leisure skills, community skills	Task analyzed intereach task divided into condition, behavior command, criterion, transit is from physical assistance to verbal prompting to independence.	Adult mentally retarded & developmentally disabled
HANDBOOK OF ESSENTIAL SKILLS, Summer 1981 curriculum series. NYC public Schools, Division of Special Education, 1981		1. Time 2. Telephone 3. Shopping 4. Personal information 5. Streets and addresses	Within each unit more specific skills are addressed (e.g., Time: setting an alarm clock. Telephone: depositing money. Shopping: computing costs)	Specific skills are presented and developed in each area. Separate page accompanied by follow-up worksheets for review, reinforcement and evaluation.	Developmentally disabled students in primary, intermediate and junior high school

TABLE 2 (Continued)

Curriculum	*Theoretical Model*	*Components Addressed*	*Specific Competencies Taught*	*Organization*	*Population*
I CAN. Programmic Project in Physical Education for MR Children and Youth, Michigan State University, 1974	Cybernetic verbal model of learning	Developing the skills and abilities which enable social-leisure competence commensurate with the potential of each learner.	Psychomotor skills Cognitive skills Affective skills	Different models are provided in each of the 3 areas. Organizational categories include: 1. program goals; 2. target skills; 3. performance areas; and 4. modules.	Trainable mentally retarded. Also used with blind and normal students
MODEL AFFECTIVE RESOURCE CURRICULUM PROJECT. Orange County Public School, CA, 1980	Psychoeducational	Self-control Problem solving Behavioral interactions Communication	Verbal self-instruction Self monitoring Relaxing Identifying problems and desirable outcomes Generating solutions Behavior modification techniques Making thoughts and feelings known	Units arranged sequentially and organized in standard instructional pattern of modeling, practice, feedback. Units are broken into skill lessons & these into activity lessons.	Emotionally disturbed adolescents
PROJECT RE-ED, described in N. J. Long, W. C. Morse, R. G. Newman, Conflict in the Classroom: The Education of Children with Problems, Wadsworth Publishing, Belmont CA, 1971	Ecological	Social competence	Academic remediation Sensory-motor Individual & group Psychotherapy Modification of both youth & ecological system to obtain balance	For use in residential schools or small group living situations. Requires 3-member team of teacher-counselors, specialists, diagnostician & supervisor for coordinated 24 hour/day curriculum Steps in design include gathering & integrating information, developing goals, coordination & evaluation. Methods,	Mildly to moderately disturbed youth with average or above average intelligence, often academically retarded

TABLE 2 (Continued)

Curriculum	*Theoretical Model*	*Components Addressed*	*Specific Competencies Taught*	*Organization*	*Population*
SOCIAL LEARNING CURRICULUM					
Pre-primary programs Herbert Goldstein, Mark Alter Melton-Penninsula Inc., Dallas, TX. 1981–82	Psycho-educational Inductive learning	Pre-primary Gross motor Sensory awareness Perceptual motor play	Head control Sitting Standing/walking Early visual experience Early auditory experience Tactile experience Taste and smell experience Proprioceptive experience Exploratory play Parallel play Cooperative play collaborative play competetive play	The Social Learning Curriculum (SLC) is structured according to Gestalt psychology, mass differentiation, and integration. Primary emphasis is placed on social interactional and behavioral learning while providing suggestions for application of the academic skill areas to the social learning process. The Curriculum is divided into curricular sections called phases that represent teaching content. The teaching strategy and learning method upon which the curriculum is based is the inductive method. This method constitutes 5 steps which guide the organization of the content in the SLC. The	Handicapped children and youth with mild to severe learning problems
Herbert Goldstein Primary Phases 1–10 Intermediate phases 11–16 Charles E. Merrill Publishing Company. Columbus, Ohio. 1974		Pre-primary Self Home & Family	Shared characteristics Feelings Bodily functions Motor, social & communication Sensory, emotional & physical awareness Interdependence & individuality. Roles & multiplicity of function Acting on abstract concepts, e.g., cooperation		

TABLE 2 (Continued)

Curriculum	*Theoretical Model*	*Components Addressed*	*Specific Competencies Taught*	*Organization*	*Population*
				materials & techniques vary according to student need.	
			Customs & morals of other families	5 steps are labeling, detailing, inferring, predicting, and generalizing.	
			Recognition of entity beyond self		
		Neighborhood	Maintenance of self & family identity		
			Strategies for routine experiences, e.g. shopping		
			Transactions with remote people. Codified & uncodified rules		
			Extension of family roles		
		Community	Formulas for interacting with impersonal roles		
			Self management with abstract constraints		
			Personal affairs & work settings		
		Extra-community	Conceptually distant activities, e.g. voting		
			Awareness & motivation of self as member of larger political group		

positive portrait of quality education. First, the literature on teacher-pupil interactions is relatively recent in the field of special education, and the extent of the research is limited, although it is growing. A major limitation of this research, however, is the reliance on very small sample sizes. Few of the available studies have observed samples greater than 25. In the dissatisfaction with the empirical findings related to the educational performance of many handicapped children in self-contained classes, many educators espoused regular programming as being philosophically desirable and more closely in tune with present-day views of the public at large. What appears to be downplayed in much of the traditional special education literature is a point that was noted by Leinhardt and Pallay (1982), namely that the quality of the education, rather than any particular setting, is the prime ingredient in determining the appropriateness of an education.

Nowhere is the lack of an empirical basis for quality education more striking than in the area of social skills training, a discipline that has been extensively researched, and in which dozens of curricula have appeared. The curricula that we presented in Table 2 is but a small sampling of those that are available. Unfortunately, there is virtually no compatibility between the research literature on social skills training and the curriculum literature on that same topic. This is a difficult enigma, indeed. There is little doubt that teachers use curricula to structure their classroom activities. The overwhelming majority of findings in the social skills research literature are probably not applicable to classroom teachers because the medium to deliver the instruction was absent from the research.

Curricula, on the other hand, which are often ideally suited to teachers' needs are severely limited in that they are most often developed so that a teacher could deliver instruction to a whole class at a time. Unlike the research literature which attempts to specify the circumstances under which specific interventions are likely to be effective, curricula do not achieve that level of specificity. Probably to the surprise of few the literature in this extensively studied areas (social skills training) suggests that even where the knowledge base is present it is not likely to be disseminated in the classroom.

It appears to us that the issue of how to develop appropriate interventions that are capable of being effectively delivered by the classroom teacher is the crucial question of our time. Unfortunately, we are at a time in the history of special education when ideology prevails over substance. Only when we ask—and answer—questions that focus on the delivery of academic and social instruction as effectively and efficiently as possible will we be able to talk meaningfully about appropriateness of education.

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